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NOVEMBER 2 • 2015 EDITION

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A man with dark, wavy hair and glasses, wearing a grey suit and a blue tie, is shown from the chest up. He is looking upwards and to the right, with his right hand resting on his chin in a contemplative pose. The background is a solid dark grey.

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ON THE COVER

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Bubble? Hardly. Yes, many \$1 billion startups are overvalued. But when viewed together and weighed against the first dot-com boom, they still represent a blockbuster investing moment.

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BY ALEX KONRAD

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HYUNDAI MOTOR

Earns High Marks in Annual J.D. Power Initial Quality Study

In the recent J.D. Power U.S. Initial Quality StudySM (IQS), Hyundai was ranked fourth among all brands and second among non-premium automakers. In addition, the 2015 Hyundai Tucson was awarded for the highest initial quality in the small SUV segment, with the 2015 Hyundai Accent earning the highest honor in the small-car segment for the second year in a row.

"Hyundai is committed to delivering its owners exceptional quality vehicles," said Frank Ferrara, executive vice president, customer satisfaction, Hyundai Motor America.

"Not only do we take the improvement of quality on our existing models seriously, but we must also launch new vehicles with the highest quality right out of the gate. It is important for our customers to be happy with their vehicles, and that starts with quality and educating them on how to use all the features of their vehicle. Results like these demonstrate how well we're succeeding in connecting with our customers on all levels."

IQS, now in its 29th year, serves as the industry benchmark for new-vehicle quality measured at 90 days of ownership. According to the study, Tucson and Accent owners reported fewer problems with their vehicles than any other small SUV or small car, respectively.

"Small SUVs and small cars are some of the most popular vehicles on the road today, and nearly every automaker has products that compete in these segments, giving consumers many options to choose from," said Mircea Gradu, executive director, engineering and quality, Hyundai Motor America. "Both the Accent and Tucson were ranked highest in their crowded segments for high quality,

which provides owners peace of mind when it comes to an important financial purchase."

In total, Hyundai had four models ranking in the top two in their segments, including segment awards for Tucson and Accent, and second-place finishes for Elantra and Santa Fe. The Hyundai's overall score was 95 problems per 100 vehicles, 17 problems fewer than the industry average.

This year's results mark the fourth time Hyundai has finished among the top four brands overall.

The 2015 IQS is based on responses from more than 84,000 purchasers and lessees of new 2015 model-year vehicles surveyed after 90 days of ownership. The study is based on a 233-question survey designed to provide manufacturers with information to facilitate the identification of problems and drive product improvement. ■



Trophies

 **NEW THINKING.
NEW POSSIBILITIES.**

ABOUT HYUNDAI MOTOR

Established in 1967, Hyundai Motor Company is committed to becoming a lifetime partner in automobiles and beyond. The company, which leads the Hyundai Motor Group, an innovative business structure capable of circulating resources from molten iron to finished cars, offers top-quality best sellers such as Elantra, Sonata and Genesis. Hyundai Motor has eight manufacturing bases and seven design and technical centers worldwide, and in 2013, it sold 4.73 million vehicles globally. With almost 100,000 employees worldwide, Hyundai Motor continues to enhance its product lineup with localized models and strives to strengthen its leadership in clean technology, starting with the world's first mass-produced hydrogen-powered vehicle, ix35 Fuel Cell.

More information about Hyundai Motor and its products can be found at:
<http://worldwide.hyundai.com> or <http://www.hyundaiglobalnews.com>



Greatness doesn't happen overnight

2015 Tucson and Accent "Highest Ranked Small SUV and Small Car in Initial Quality in the U.S."

TUCSON | ACCENT

The Hyundai Tucson and Accent received the lowest number of problems per 100 vehicles among small SUVs and small cars in the proprietary J.D. Power 2015 U.S. Initial Quality StudySM. Study based on responses from 84,367 U.S. new-vehicle owners of 2015 model-year vehicles, measuring 244 models and measures opinions after 90 days of ownership. Proprietary study results are based on experiences and perceptions of U.S. owners surveyed in February-May 2015. Your experiences may vary. Visit jdpower.com.



NEW THINKING.
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your supplier → ADD PASSWORD

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A hand-drawn, light gray oval encircles the text "All Yours.". A curved arrow, also in light gray, originates from the left side of the frame and points towards the oval.

All Yours.

The Dropbox logo, consisting of a blue square with a white geometric pattern inside.

Dropbox for Business



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"WHAT'S YOUR SALARY?"
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NOVEMBER 2, 2015 — VOLUME 196 NUMBER 6

FORBES (ISSN 0015 6914) is published semi-monthly, except monthly in January, February, April, July, August and October, by Forbes Media LLC, 499 Washington Blvd., Jersey City, NJ 07310. Periodicals postage paid at Jersey City, NJ 07302 and at additional mailing offices. Canadian Agreement No. 40036469. Return undeliverable Canadian addresses to APC Postal Logistics, LLC, 140 E. Union Ave., East Rutherford, NJ 07073. Canada GST# 12576 9513 RT. POSTMASTER: Send address changes to Forbes Subscriber Service, P.O. Box 5471, Harlan, IA 51593-0971.

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INSIDE SCOOP

Plotting Our Own Mobile Revolution

BY LEWIS D'VORKIN

I SO DISLIKE INTERNET JARGON, even though I'm guilty of resorting to it. The most annoying current phrase is: Mobile First. It's standard fare in press releases. It's thrown around at industry events with pomp and bluster. It's the go-to sound bite to hype a strategic direction—even if staffing and content plans to back it up are nonexistent. So far, the best of Mobile First neatly squeezes desktop news formats into smaller devices. Well, the time has finally come—at least for us. We're determined to pave a new path forward.


Our goal is to turn mobile into a way of doing business across our company. Mobile ad spending, after a steady march to parity with the desktop, is about to surge ahead. Desktop's long reign as the digital money machine for publishers will soon be over. The mobile/Millennial juggernaut will see to that. And that's only half the story. Facebook's mobile ad dollars account for 75% of its total revenue, sucking business from everyone. If that's not enough, here comes iOS 9, which makes ad blocking a fearful reality on phones, too.

As the trends became clear, we began to plot our mobile future. Here's a preview of where we're headed:

- An accelerator unit that drives a mobile product ethos with developers, data scientists and a range of editorial roles.
- A quick-loading consumer experience that accounts for mobile attention spans and consumption habits.
- Design and formats that recognize social networks will be the main driver of audience growth moving forward.
- Features focused on sharing, saving, video and different forms of impulse participation.
- An ad model that leverages our BrandVoice native ad program, now with 100 marketing partners across digital and print.

FORBES is approaching a significant anniversary. The company published its first magazine nearly 100 years ago. The last 5 years brought particularly swift and dramatic change: the first nonfamily member CEO; the transition from a website to a publishing platform; rising magazine readership when all print was counted out; a focus on youthful entrepreneurs. And a year ago came the sale of the company to Asian investors with ambitious plans for growth in that region. Now comes our own mobile revolution—and maybe some day Mobile Only for Mobile Natives. Jargon becomes less annoying if it's yours. **F**

MOST FINANCIAL COMPANIES ARE
INTERESTED IN YOUR MONEY.
WE'RE INTERESTED IN YOUR INTERESTS.

A man with white hair and glasses is shown from the chest up, leaning forward. He is holding a black mobile phone to his ear with his right hand and a tablet computer with his left hand. He is looking at the tablet with a focused expression. The background is a blurred office setting with shelves and papers.


Northwestern Mutual realizes that money matters, but what matters more is you. Your goals. Your interests. And the things you want to accomplish most in life. We'll be right there with you every step of the way, helping you discover what's possible and guiding you with a financial plan that turns your biggest goals into your biggest achievements.

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MOST FINANCIAL COMPANIES FOCUS
ON YOUR INCOME.
WE FOCUS ON YOUR OUTCOME.

A woman with long dark hair and a young girl with long brown hair are sitting on a light-colored sofa. They are both looking at a laptop screen which is partially visible in the foreground. The woman is smiling and looking at the screen, while the girl is looking at the screen with a thoughtful expression. The background is a bright, sunlit room with a window and some furniture.

Northwestern Mutual knows what it takes to succeed both on your balance sheet and in your life. It takes the right financial partner who cares as much about your future as you do, encouraging you to do the little things that add up over time, protect what you've earned and truly achieve financial security.

You and Northwestern Mutual—stronger together.



GOP UNREST GREAT GOOD WILL FOLLOW

BY STEVE FORBES, EDITOR-IN-CHIEF

THE DISARRAY among Republicans in the House of Representatives and the reality-TV-show, circuslike atmosphere surrounding the multi-candidate GOP presidential field obscure two heartening developments that bode well for the country after the 2016 elections.

First, almost every Republican White House aspirant has put forth a serious plan for drastically changing the federal income tax code in ways that would be an enormous stimulant for economic growth. After seven lean Obama years of economic stagnation this would be rapturously welcome.

Former senator Rick Santorum and Senator Rand Paul have both unveiled serious flat-tax proposals. While not as streamlined as I would like, they're light-years better than what we have now. Each plan would junk the existing code and start over. Their simplicity would remove a major source of lobbying and political corruption, and their low single rates would give a powerful boost to investment.

Dr. Ben Carson has spoken in favor of the idea of a flat rate of 10%, with no deductions whatsoever. He'll probably flesh out his idea of a tax "tithe" in the weeks ahead.

Former governor Mike Huckabee wants to replace the income tax and payroll tax with a national sales tax of 30%. Politically, this is a nonstarter, but it taps into the desire to drastically change what we have now.

The other candidates' plans offer two or three tax rates. With one exception, none of these plans has a top rate higher than 28% (a couple of them are 25%). Senator Marco Rubio is the outlier, with a 35% bracket, which isn't a big break from what's already in place. Worse, his plan hits taxpayers at far lower thresholds than does the current code. He must "fine-tune" this in the near future or risk conservatives looking elsewhere.

All the candidates want to kill the death tax, and all lower taxes on investment income and corporate profits.

What the Republicans are putting on the table is so much more appealing than the dreary, more-taxes



twaddle of the Democrats that there will be a mandate for drastic, pro-growth tax simplification coming out of the 2016 election cycle.

Second, the new House leadership will be much more oriented toward pro-growth policies than the outgoing crew. They'll want to do big things regarding taxes, spending and regulation. At the least they'll be laying the foundation for reforms on a scale exceeding that of Ronald Reagan in the 1980s—if

the GOP nominates the right candidate.

Put Ben Behind Bars?

The ex-chairman of the Federal Reserve Ben Bernanke told *USA Today* that more corporate executives should have gone to jail for their role in the financial panic of 2008–09. "It would have been my preference to have more investigation [by the Justice Department and other law enforcement agencies] of individual action, since obviously everything that went wrong or was illegal was done by some individual, not by an abstract firm."

If we're going to be handing out go-to-jail cards for culpability for the disaster of 2008–09, then one of the first should go to Bernanke himself. His policies at the Fed and those of his predecessor were the primary reason for the debacle. Worse, what Bernanke did in the aftermath of the panic is the crucial reason that the U.S. and global economies are in such sorry shape today. For that he deserves a stiff sentence, with no prospect of parole!

In the early 2000s the Federal Reserve, in cahoots with the U.S. Treasury Department, undertook a policy to deliberately and gradually weaken the dollar. The purpose was twofold: to help "stimulate" recovery from the 2000–01 recession and to boost exports, the theory being that a cheap greenback would mean lower prices for the overseas buyers of our products and services.

Bernanke, who joined the Federal Reserve Board in



Ben Bernanke deserves one of these.

2002, vigorously supported what our central bank was doing. After leaving briefly in 2005 to head up the Council of Economic Advisers, Bernanke returned and took over the Fed in 2006, repeatedly assuring one and all that the economy was in great shape and that there was nothing to worry about regarding the housing market.

But, as Bernanke was offering his soothing but woefully wrong reassurances, the weak dollar was already wreaking havoc. What Bernanke didn't—and still doesn't—understand is that money in and of itself is not wealth. It has no intrinsic value. It *measures* wealth, just as scales measure weight, clocks measure time and yardsticks measure length. Money tells us the value of countless products and services, thereby making the buying and selling of these things infinitely easier than plodding through the cumbersome process of barter. In this sense, money is similar to a claim check for a coat or umbrella at a restaurant. We'd regard any restaurateur a silly fool who created a bunch of coat checks on the theory that this would stimulate coat production, which, in turn, would increase patronage at his eatery. Even a kid would quickly get that the owner had it backward.

Bernanke, alas, is guilty of what might be called the coat-check theory of economics: Create gobs of new money, and—voila!—the economy bursts with activity. Another well-worn way of describing this is “putting the cart before the horse.”

The 1970s should have taught us what happens when you weaken the dollar—money flows into commodities. The early 2000s saw the prices of oil, copper, gold, silver, corn, wheat and soybeans soar. When commodities suddenly and violently move in one direction at the same time, something is profoundly wrong. Bernanke completely missed

what the markets were telling him: There were too many dollars in the marketplace. Weak money also causes other hard assets to get an artificial boost. In this instance the most notorious of these was housing.

The panic itself was triggered by Washington's inconsistent responses as the consequences of the weak dollar erupted, notably the spectacular bust in housing.

If Bernanke and predecessor Alan Greenspan had pursued a sound-dollar policy, the world would have been spared this catastrophic experience.

Not content with his role in fomenting the crisis, Bernanke then chose a path that resulted in the feeblest recovery from a sharp downturn ever experienced in American history. The combination of quantitative easing, Operation Twist and the zero-interest-rate policy—not to mention all the suffocating, antilending regulation—ended up shoveling gobs of artificially low-cost credit to the federal government, big companies, Fannie Mae and Freddie Mac, while starving small businesses and consumers.

With these initiatives Bernanke and his successor, Janet Yellen, have inadvertently created a stronger dollar, which is hammering such countries as Brazil, Indonesia (home to the world's largest Muslim population), Nigeria and Canada.

An unstable dollar is similar to a watch that is running either too fast or too slow. It's disruptive. **F**

Restaurants: Go, Consider, Stop

Edible enlightenment from our eatery experts and colleagues Richard Nalley, Monie Begley and Randall Lane, as well as brothers Bob, Kip and Tim.

● The Simone

151 East 82nd St. (Tel.: 212-772-8861)

Tina Vaughn and Chef Chip Smith have created an elegant, intimate and romantic French experience, with a dozen tables, in a classic NYC town house. The menu changes often. Appetizers on our night: luxurious crab three ways (crab cake, crab dumplings over mixed greens and crab parfait with mustard sauce); lemony lobster salad; and perfect *pâté de campagne*. Delicious main courses: Alaskan sockeye salmon, and two lamb chops served with braised lamb shank. The chef's desserts are irresistible.

● Caffé Storico

New York Historical Society, 170 Central Park West (Tel.: 212-485-9211)

One of the city's most lovely and superb new places to dine, day or night. Salads are fresh and savory. The grilled branzino with fingerling potatoes is succulent, and the swordfish with pine nuts and currants is the best we've had. For dessert share the coffee cake with dulce de leche and vanilla gelato and the vanilla panna cotta with rhubarb and strawberry—divine.

● Jams

1414 Avenue of the Americas, 1 Hotel Central Park, at 58th St. (Tel.: 212-703-2007)

Chic California warehouse-style decor—two-story windows, painted pipes in the ceiling and wood and brick walls. Appetizers are delicious: short-rib tacos, signature Jams pancakes and pizzette. However, the main courses are simply all right. Unacceptable is the “pour for price” regarding wine: A \$21 glass of rosé was 2 inches in a small glass. Upon commenting, we were told, “That's what the manager tells us to pour.” That's one way to pay for snazzy decor.

● The Ribbon

20 West 72nd St. (Tel.: 212-787-5656)

Go past the bar into the handsome dining room, with its tin ceiling and brick and paneled walls. Excellent fare. Best are the taste-bud-teasing hot-pickled-pepper deviled eggs; the sweet, cold half-lobster that comes with cocktail sauce and spicy mayonnaise, rounded off with a side of braised carrots; and the prepared-to-perfection salmon. The toffee pudding is a must.

● Sagaponack

4 West 22nd St. (Tel.: 212-229-2226)

This Flatiron-area pub/bistro serves reasonably priced food and killer desserts. Don't be put off by the chalkboard outside pushing happy hour—instead, go in and enjoy the baby kale salad with spicy chicken breast, or, if you're not in the mood for meat, the particularly tasty skillet of seasonal vegetables. Follow up with any of the desserts and you'll leave happy.

Business Is Personal

Why You Should Integrate Your Personal and Business Goals in One Financial Plan

BY NORTHWESTERN MUTUAL

If you're the owner of a closely held business, you know there's much to think about any time of the day or night. "What if I or my business partner gets sick or hurt? How can I attract the best people? How will I exit my business? Will I have enough income from my business to support the next phase of my life?"

At Northwestern Mutual, we believe in an integrated approach to your personal and business planning. After all, your personal finances rely on the value and success of your business. An integrated plan that addresses a variety of potential risks can protect you, your family and business at every stage of your life. And once you have addressed those risks, you can build your future with confidence.

Here are some things to consider at different stages of your journey:

When starting out, it's important to put strategies in place to manage risks that could jeopardize your company's success and impact your ability to earn an income. Consider how the right insurance can protect your business and income potential, especially if you or a partner can't work because of a serious illness or injury. A disability overhead expense policy, for example, can protect a business if an injury or illness prevents you or a key member of your staff from working.

As your business grows, your integrated plan should evolve to reflect your company's changing needs. That includes identifying ways to build a strong workforce. As an employer, you should consider providing competitive benefit packages that include health, life and disability income insurance to attract, retain and reward employees who play an integral role in the company's success. You can also use insurance to protect the business from the loss of an owner or key employee due to death or disability.



Kevin Harberts (left) meets with an employee at his company, Kryton Engineered Metals, in Cedar Falls, IA. Harberts works with Northwestern Mutual for his business and personal financial planning.

As a business owner, the sooner you develop a plan that integrates all aspects of planning, the sooner you can move forward with confidence.

When your business matures, you'll want to focus on creating a well-designed and -funded exit plan to ease your transition. An integrated exit plan will smoothly transfer your business to new owners—perhaps children and grandchildren—and will spell out how money you receive from the business ties into your personal financial plan as you move to the next stage of your life.

As a business owner, the sooner you develop a plan that integrates all aspects

of planning, the sooner you can move forward with confidence. At Northwestern Mutual, we understand what's important to you and your business. Our trusted financial professionals will work with your team of advisors to build a plan and bring you the right products to help you reach your business and life goals.

See Kevin Harbert's story at: www.northwesternmutual.com/business

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AIRFRANCE.US

LeaderBoard

November 2, 2015

“If I Only Knew” (2012), an abstract painting by Seattle’s new real estate billionaire, Martin Selig, hangs in the lobby of his office building at 2101 Fourth Avenue in the city’s Belltown neighborhood. **PAGE 34**



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JOHN VS. JANIS: CLASH OF THE PSYCHEDELIC CARS 46

Forbes LeaderBoard

5 (tie). RHETT & LINK, \$4.5 MILLION

Rhett McLaughlin and Charles Lincoln Neal III both earned engineering degrees from NC State and worked in corporate America before launching their comedy careers on YouTube relatively late in life (they are 38 and 37, respectively). The duo is famous for *Good Mythical Morning*, a send-up of morning television news shows. Nearly half of their earnings come from sponsored deals—they've shot sponsored clips for their channels for such brands as Gillette, Wendy's and Toyota.

HOLLYWOOD

YouTube Millionaires

OUR FIRST-EVER RANKING of the richest YouTubers (yeah, it's a word) uncovers 13 DIY filmmakers minting millions by commenting on videogames, serving up comedy, blogging about beauty and even dancing while playing the violin. The minimum to make the final cut? \$2.5 million in pretax earnings in the year ending June 1, 2015. Most of that cash comes from advertisements, but some of these stars are diversifying into traditional television and movies—and a few even have their own product lines, selling everything from sweatshirts to eyeliner. Six of the biggest earners gathered in the YouTube Space LA—a massive 41,000-square-foot complex of production studios, editing spaces and recording booths that occupies a former airport—in mid-September.

8 (tie). ROSANNA PANSINO, \$2.5 MILLION

A self-trained chef whose baking tutorials have taught millions the science behind a perfect cupcake will publish her first cookbook, *The Nerdy Nummies Cookbook: Sweet Treats for the Geek in All of Us*, this month. Earlier this year Pansino partnered with pan-and-tray-maker Wilton Brands on her how-to series, *Nerdy Nummies*.

7. MICHELLE PHAN, \$3 MILLION

The self-taught makeup artist established herself with tutorials teaching girls how to paint themselves like their favorite celebs, including Lady Gaga and Angelina Jolie. She's playing a long game; she reinvests most of the money from her projects—including her cosmetics line and iposy, a monthly makeup-subscription service—right back into her business.

8 (tie). LILLY SINGH, \$2.5 MILLION

Also known by her YouTube name, Superwoman, Singh is a stand-up comedian who leans heavily on her ethnic background (her parents immigrated to Canada from India) and is also a singer, whose 2015 world tour, *A Trip to Unicorn Island*, hit 27 cities worldwide.

4. LINDSEY STIRLING, \$6 MILLION

She plays the violin. She dances. Then she does them at the same time, and it's kind of amazing. Stirling began posting her videos of herself performing in 2007 after failing to be signed by a major record label. Now they are begging to sign her, but too late—she doesn't need them anymore. Explains Stirling: "It's a very loyal fan base that wants you to succeed because they found you. It wasn't some big radio station or record label that shoved art down someone's throat."

1. PEWDIEPIE, \$12 MILLION For a guy who has nearly 40 million people subscribing to his "playing videogames with your bros" channel, this Swedish star, whose real name is Felix Kjellberg, is notoriously private, rarely granting interviews, doing conferences or visiting the Los Angeles YouTube studios. Sorry, bro, but if you are making more than \$10 million a year playing *The Walking Dead*, it's going to be newsworthy.

2 (tie). SMOSH, \$8.5 MILLION Ian Hecox and Anthony Padilla, childhood best friends from Sacramento, Calif., have reinvented themselves online as Smosh, a comedy act that got famous for live-action skits based on Pokémon games. It just got bigger from there: The pair runs five YouTube channels, including ElSmosh (*Smosh en español*). Their first full-length movie, *Smosh: The Movie*, came out in July.

2 (tie). FINE BROTHERS, \$8.5 MILLION Benny and Rafi Fine first drew notice—and a Daytime Emmy Award—for their React video series, in which they film people watching over-the-top videos from the likes of PewDiePie and rapper Nicki Minaj. How meta. Now they are moving from the very small screen to the small screen: In 2014 Nickelodeon debuted *React to That*.

5 (tie). KSI, \$4.5 MILLION The British videogame commentator, born Olajide Olatunji, has used his YouTube stardom—almost 11 million followers—as a springboard to a music career. His hip-hop single "Lamborghini" reached No. 30 on the U.K. charts in April.

8 (tie). ROMAN ATWOOD, \$2.5 MILLION As if Punk'd wasn't annoying enough, Atwood has taken the concept to another level online—pulling pranks like using a stuffed skunk to spray bystanders and faux-flashing young children (while wearing a T-shirt that reads "Don't Do Drugs"). He has attracted over 7 million followers along the way. Nissan gets the joke—the company partnered with him for a video that ran last January—and so do the customers of his online Smile More Store (sweatshirts, water bottles, tote bags, etc.).

DU PONT FAMILY
+\$490 MILLION
NET WORTH: \$13.5 BILLION

Five months after beating back a challenge from activist Nelson Peltz, DuPont CEO Ellen Kullman retires, helping boost shares 14%.



LeaderBoard

NEW BILLIONAIRES

Sky-High in Seattle

Real estate developer Martin Selig has built many of the Emerald City's jewels.

IT'S IMPOSSIBLE to look at Seattle and not see Martin Selig. His eponymous real estate company has been erecting buildings there for nearly six decades—mostly high-end high-rises. Two of his most impressive projects: the glassy aeries downtown on Fifth Avenue called Fifth & Jackson and Fifth & Yesler. (He also built and owned the 76-floor Columbia Center—the city's tallest building when completed in 1985—before selling it for \$354 million in 1989.)

He still owns all of Martin Selig Real Estate and its 4 million square feet of office space ("When I see it, I go after it," he says). With an Amazon-fueled commercial real estate boomlet, Selig is developing an additional 1.5 million square feet and is now worth an estimated \$1.1 billion.

The 78-year-old arrived in the Pacific Northwest under less than auspicious circumstances. He and his family fled Nazi Germany in 1939 after a late-night warning to get out, traveling east through Poland, Russia, Korea and then steerage to America, getting off—apparently on a whim—in Seattle. Selig worked at his father's children's clothing store before putting up his first shopping center in 1962. Right place, right time: By the 1980s Selig owned as much as a third of all office space in Seattle. *FORBES* estimated his fortune at \$210 million in 1987. An avid art collector, Selig is also an artist in his own right (see p. 31): "I paint quite a bit. I don't have enough walls."



ALL FIGURES AT THE TOP OF THIS AND SUBSEQUENT PAGES REPRESENT CHANGES IN WEALTH BETWEEN SEPT. 11 AND OCT. 6.
SOURCES: INTERACTIVE DATA VIA FACTSET RESEARCH SYSTEMS; *FORBES*.

RICHEST BY STATE

Illinois



POPULATION:

12.9 MILLION

GROSS STATE PRODUCT:

\$680.4 BILLION

(1.2% GROWTH YEAR-ON-YEAR)

GSP PER CAPITA:

\$52,827 (RANKS NO. 13 NATIONWIDE)

RICHEST:

KEN GRIFFIN

\$7 BILLION (NO. 69 ON THE *FORBES* 400)

THINGS ARE LOOKING UP for the Chicago hedge fund titan: His firm is thriving, and in October he and his wife of 12 years, Anne Dias Griffin, reached a settlement in their contentious divorce case. Nasty and messy, it revealed details of the Griffins' expensive lifestyle (she claimed nearly \$1 million per month in child-care expenses) and rocky relationship (Ken allegedly threw a bedpost toward Anne during one argument; he denies it).

The biggest sticking point: a billionaire's best friend—a prenup, which entitled Anne to a mere \$25 million lump-sum payment (less than 0.4% of Ken's net worth), \$1 million for every year the couple was married and joint ownership of their penthouse. Anne, 45, said she was coerced into signing it the night before her wedding; Ken, 47, denied arm-twisting. The financial details of the settlement haven't been disclosed, but Anne has dropped her challenge to the prenup and her request to move the couple's three young children to New York.

Despite turmoil at home and in markets this year, Ken continues to be a top fund manager. His firm, Citadel, which oversees some \$25 billion, posted double-digit returns through the August downturn while most of his peers struggled. He founded the company in 1990 but first began trading from his Harvard dorm room in 1987 after convincing the university to let him put a satellite dish on the roof to get real-time stock quotes. His next move: a potential 2016 IPO.

RICHEST BY STATE BY CHASE PETERSON-WITHORN; NEW BILLIONAIRE BY CHLOE SORVINO
CHRIS LYONS; UPPA / ZUMA PRESS / NEWS.COM (TOP) / PHOTO COURTESY OF MARTIN SELIG REAL ESTATE

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DANIEL OCH
-\$240 MILLION

NET WORTH: \$3.2 BILLION
His publicly traded hedge fund, Och-Ziff Capital Management, announces that its three master funds have lost money three of the last four months.



30 UNDER 30

What's on the Millennial Mind?

On Oct. 4 FORBES kicked off our second annual Under 30 Summit in Philadelphia. What happens when 1,500 game-changing Millennials descend on the City of Brotherly Love for three days? Here's a quick recap of conversations that began onstage and continued around the world.



3.3 MILLION

People who saw tweets from @ForbesUnder30 during the summit.

13,727

Tweets with the #Under30Summit hashtag.

6.4 MILLION

Likes garnered across all social media platforms by the onstage launch of ChangUr, an app that allows users to donate their "digital spare change" to the charity of their choice.



10,000

The number of times the world's youngest female self-made billionaire, Elizabeth Holmes, told entrepreneurs they must be willing to start over if they get knocked down. The Theranos founder was the recipient of the FORBES Under 30 Doers Award.

8.05 MILLION

People following Under 30 alum Michelle Phan's YouTube account. Phan parlayed her mega-following into ipsoy, a \$500 million subscription beauty business.

"I thought, If this is going to be the global television of the future, I need to build my brand here," said Phan of YouTube.

\$1 BILLION

The valuation milestone that First Round Capital partner Josh Kopelman said is no longer meaningful: "It's the new vanity metric."



Josh Kopelman, winner of the Under 30 Mentorship Award joined Stripe cofounder John Collison, Axovant founder Vivek Ramaswamy and Datto founder Austin McChord to consider the fraught title of unicorn. "Valuations are an outcome," said Kopelman, "not something you optimize."

33,700

Number of retweets, favorites and comments on Shawn Mendes' Instagram of his extemporaneous backstage jam session with A\$AP Rocky.



10 BILLION

Number of matches made on Tinder, according to cofounder Sean Rad. He was famously ousted as CEO of the company he founded while backstage at last year's summit. A year on he's back in charge and ready to talk about where the company is going next.

"We want to bring the world closer together by creating connections that never would have existed," Rad told the crowd.

1 YEAR

Time since Monica Lewinsky took the stage at FORBES' inaugural Under 30 Summit, making her first public address since she became the world's most infamous 24-year-old. In the intervening 12 months Lewinsky gave a TED Talk that's been viewed by nearly 6 million people and joined forces with Bystander Revolution, an organization working to prevent bullying.

"I'm open to being surprised by the future," Lewinsky told this year's attendees. "I want to keep giving a purpose to my past."



30 UNDER 30 BY KATHRYN DILL
BLOOMBERG (TOP)



IT IS BETTER TO FAIL IN ORIGINALITY
THAN TO SUCCEED IN IMITATION
HERMAN MELVILLE



THE FIRST-EVER ATS-V COUPE
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DARE GREATLY

LeaderBoard

BILL GROSS
+LAWSUIT

NET WORTH: \$2 BILLION
Bond king sues erstwhile employer Pimco for \$200 million over his 2014 firing, the latest salvo in his battle with the company.



30 UNDER 30

Million-Dollar Ideas



THE CHALLENGE was daunting: Demonstrate that you have a disruptive, scalable idea that can solve a global problem. So were the numbers: 2,506 social entrepreneurs, all under 30, who shared their concepts and results—by far the largest-ever contest of its kind.

In the end six finalists took the stage at the Under 30 Summit in Philadelphia on Oct. 6 for our inaugural Under 30 \$1 Million Change the World Competition. Each was guaranteed \$100,000 from the prize pool created by FORBES and its partners (the Charles & Lynn Schusterman Family Foundation, the Case Foundation, the Pratt Foundation, the Keywell Foundation and entrepreneur Robert Duggan). One would get \$500,000.

Here's who pitched the finals judges, who were FORBES CEO Mike Perlis, Global Poverty Project/Global Citizen cofounder Hugh Evans (a FORBES 30 Under 30 alum) and McKinsey and Co.'s socially focused principal Lynn Taliento.

HEATHER CONCANNON AND ELIZABETH NGUYEN,

27, 27, Unitarian Universalist Community Cooperatives.

IDEA: Housing solutions via values-based cooperative living.

WHAT THE JUDGES SAID:

Inspiring grassroots effort; decision-making may be tough in such a flat organization.

RESULT: \$100,000

PAUL DUAN, 23 (below), Bayes Impact.

IDEA: Harness big data to make government operations more efficient.

WHAT THE JUDGES SAID: Home in on the problem you're solving.

RESULT: \$100,000



GOVINDA UPADHYAY, 27, LEDsafari.

IDEA: Distribute inexpensive solar LED lamp kits to teach kids in developing countries about physics and provide light in their homes.

WHAT THE JUDGES SAID:

Outcomes are great; focus on how to scale.

RESULT: \$100,000



AMARA HUMPHRY, 27 (above), Gooru.

IDEA: Provide classrooms everywhere with access to an open-source digital resource catalog.

WHAT THE JUDGES SAID: Evaluate before you scale.

RESULT: \$100,000

DANIEL YU, 22, Reliefwatch.

IDEA: Help clinics in the developing world manage their supply inventory via basic mobile phone.

WHAT THE JUDGES SAID:

The challenges of working with local governments may be huge.

RESULT: \$100,000

WINNER:

KIAH WILLIAMS, 29, SIRUM (FORBES 30 Under 30 alum).

IDEA: Connect low-income patients with unused prescription medication.

WHAT THE JUDGES SAID:

Scale up to connect with more donors.

RESULT: \$500,000

Stage Presence

All-star panelists from the Forbes Under 30 Summit, in 30 words or less.

Jamie Byron and Gabe Blanchet

GROVE LABS | 24, 24

Grove Labs builds "bookshelf-size" home aquaponic gardens; some yield the equivalent of a salad, daily. Previously confined to Boston, the units will be available nationwide next month.



Jake Fuentes

LEVEL MONEY | 29

Fuentes sold his budgeting app—which gives 800,000 money-minded Millennials a "safe to spend" number each day—to Capital One earlier this year but remains at the helm.

Sarah Kunst

VENTURE FOR AMERICA | 29

Socially minded VC Kunst is adding founder to her résumé next month, launching fitness app Proday (train like your favorite athlete!) with funding from the L.A. Dodgers and Arielle Zuckerberg.



BY KATHRYN DILL
ILLUSTRATIONS BY PATRICK WELSH; BLOOMBERG (TOP)

A CALM IS NOT DESIRABLE
IN ANY SITUATION IN LIFE
ABIGAIL ADAMS



Cadillac

DARE GREATLY

THE CTS-V
CADILLAC.COM/CTSV

SANTO DOMINGO FAMILY
+\$2.2 BILLION

NET WORTH: \$13.6 BILLION

Largest individual shareholders in beer giant SABMiller see fortune pop as Anheuser-Busch InBev makes \$104 billion buyout bid. Say the Santo Domingos: Not enough.



LeaderBoard

SEAL THE DEAL

Big Reds

The most sought-after red wines are an internationally established currency of celebration, an extravagant appreciation of a partnership well conducted, a favor duly noted, a relationship worth toasting.

Here are five that will light up a table with instant pleasure recognition.



2004 Vega-Sicilia Unico (\$525)

Fewer than 7,000 cases of Spain's gold standard are produced a year—and that's after a decade in a barrel.

2011 Colgin Cellars IX Estate Red (\$695)

One of Napa's first cult wines, Colgin consistently produces high scores and high return on investment.

2010 Petrus (\$4,995)

John F. Kennedy's love for Château Petrus helped put this onetime Bordeaux dark horse on the connoisseur's map.

2012 Domaine de la Romanée-Conti La Tache (\$2,900)

A 12-bottle case of 1966 La Tache sold at auction earlier this year for more than \$30,000.

2011 Gaja Sori Tildin Langhe (\$575)

First produced in 1970, this quintessential Nebbiolo will only improve with time in the cellar.

(All wines courtesy of and available at Sherry-Lehmann, sherry-lehmann.com.)

BY RICHARD NALLEY
 PHOTOGRAPH BY JARREN VINK FOR FORBES

DESIGN AND **TECHNOLOGY.**



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RALPH LAUREN
+\$280 MILLION

NET WORTH: \$6.5 BILLION
 Clothing icon, 76, announces he's ceding CEO role to respected Old Navy exec Stefan Larsson; stock jumps 14% the next day.

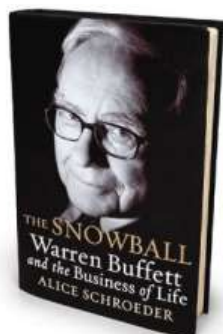


BUSINESS LIBRARY

Bio Hazards

A full 10% of The Forbes 400 have been the subject of a biography, authorized or otherwise—but a big name and a big fortune are not necessarily a guarantee of boffo sales.

PURCHASED AND PORED OVER



The Snowball: Warren Buffett and the Business of Life
 by Alice Schroeder
 (2008, authorized):
439,000 copies sold

Oprah: A Biography
 by Kitty Kelley
 (2010, unauthorized):
142,000 copies sold

The Everything Store: Jeff Bezos and the Age of Amazon
 by Brad Stone
 (2013, unauthorized):
49,300 copies sold



POOH-POOHED AND PULPED

The Google Guys: Inside the Brilliant Minds of Google Founders Larry Page and Sergey Brin
 by Richard L. Brandt
 (2011, unauthorized):
900 copies sold



Money Talks, Bullsh*t Walks: Inside the Contrarian Mind of Billionaire Mogul Sam Zell
 by Ben Johnson
 (2009, unauthorized):
1,300 copies sold

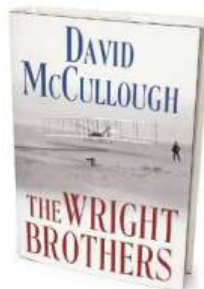
Rupert Murdoch: The Untold Story of the World's Greatest Media Wizard
 by Neil Chenoweth
 (2002, unauthorized):
2,400 copies sold

SOURCE: NIELSEN. NIELSEN BOOKSCAN'S U.S. CONSUMER MARKET PANEL CURRENTLY COVERS APPROXIMATELY 85% OF THE PRINT BOOK MARKET.

Wall Street Book Clubs

WHAT'S INSIDE those sleek briefcases in lower Manhattan? Obviously secret documents, a fresh shirt and a few stacks of cash—but perhaps also a couple paperbacks. While tastes might be more refined in the literary alleys uptown, each year some of Wall Street's top firms release recommended reading lists for their clients and employees. You won't find Marx or Piketty here, but it's not all business-school bromides: the history of rain, anyone?

J.P. MORGAN



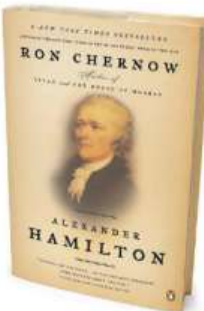
1. **How to Fly a Horse: The Secret History of Creation, Invention, and Discovery** by Kevin Ashton
2. **Rain: A Natural and Cultural History** by Cynthia Barnett
3. **Saturday Night Live: The Book** by Alison Castle
4. **World Order** by Henry Kissinger
5. **The Wright Brothers** by David McCullough
6. **Every Gift Matters: How Your Passion Can Change the World** by Carrie Morgridge and John Perry
7. **Creative Schools: The Grassroots Revolution That's Transforming Education** by Ken Robinson and Lou Aronica
8. **The Resilience Dividend: Being Strong in a World Where Things Go Wrong** by Judith Rodin
9. **Deep Down Dark: The Untold Stories of 33 Men Buried in a Chilean Mine, and the Miracle That Set Them Free** by Héctor Tobar
10. **Where Chefs Eat: A Guide to Chefs' Favorite Restaurants** by Joe Warwick

BNP PARIBAS

1. **Family Businesses: The Essentials** by Peter Leach
2. **Culture Mentoring** by Martine Liautaud
3. **However Long the Night: Molly Melching's Journey to Help Millions of African Women and Girls Triumph** by Aimee Molloy
4. **Getting (More of) What You Want** by Margaret A. Neale and Thomas Z. Lys
5. **The Facebook Era** by Clara Shih



GOLDMAN SACHS



1. **Wrestling On and Off the Mat** by R. Wayne Baughman
2. **Moonrise** by Ben Bova
3. **How to Win Friends & Influence People** by Dale Carnegie
4. **Alexander Hamilton** by Ron Chernow
5. **The Return of the Native** by Thomas Hardy
6. **The Short and Tragic Life of Robert Peace** by Jeff Hobbs
7. **The Divine Within: Selected Writings on Enlightenment** by Aldous Huxley
8. **How Google Works** by Eric Schmidt and Jonathan Rosenberg
9. **My Beloved World** by Sonia Sotomayor
10. **Seventheaves: A Novel** by Neal Stephenson

BY NATALE ROBEHEIM
 WIN MCNAMEE / GETTY IMAGES (LEFT); RANDY BROOKE/GETTY IMAGES (TOP)



haveKINDLE willTRAVEL

@FURSTY, OSLO | Tucked away in the Norwegian fjords, I spent my cold and quiet mornings by the water reading *The Martian* on my Kindle Paperwhite. The otherworldly landscape made each page feel as if I were on another planet.

Follow more journeys on Instagram @AMAZONKINDLE



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LeaderBoard

J. MICHAEL PEARSON
- \$330 MILLION

NET WORTH: \$930 MILLION
CEO of pharma company Valeant loses
a fortune as congressional Democrats push to
subpoena his firm over rising drug prices.



DEAL TOY

Whopper of a Takeover

FOR MUCH OF its history Burger King was something of an afterthought, lagging far behind McDonald's and neglected by owners, including Diageo and a private equity consortium led by TPG Capital. But in the five years since its most recent buyout—by 3G Capital, led by Brazilian billionaires Jorge Paulo Lemann, Carlos Sicupira and Marcel Telles—the fast-food chain has regained its royal luster.

HAVE IT YOUR WAY

When 3G made its \$3.3 billion bid in 2010, Burger King shares were languishing, trading around \$17—less than they had at the peak of the financial crisis. The private equity firm anted up \$1.6 billion in cash, borrowed \$1.7 billion more and took the firm private, paying \$24 a share. The Brazilians installed partner Alex Behring as CEO to maximize profits by building the store base, refreshing the menu and franchising company-owned outlets.

A KING'S RANSOM

The formerly disregarded brand has rebounded significantly, with growth that puts the Golden Arches to shame: In the second quarter of 2015 BK's global same-store sales were up 6.7%, while those of McDonald's shrank 0.7%.



UNEASY LIES THE HEAD ...

3G has put the shine back on the crown, but "The King" mascot was exiled, phased out of ad campaigns in 2011. He has made some high-profile cameos recently, though, appearing in boxer Floyd Mayweather's entourage and standing behind American Pharoah trainer Bob Baffert as the Thoroughbred won the Belmont Stakes to take the Triple Crown.

JUSTICE (AND BERKSHIRE) WILL BE SERVED

Two years after buying Burger King, 3G sold 29% of its stake to Bill Ackman-backed investment vehicle Justice Holdings for \$1.4 billion. In 2014 Warren Buffett's Berkshire Hathaway helped finance BK's \$11 billion tax-advantaged takeover of Canadian coffee-and-doughnuts chain Tim Hortons.

BY STEVE SCHAEFER
PHOTOGRAPH: SAM KAPLAN FOR FORBES; SCOTT EELLS / BLOOMBERG (TOP)

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The business you love deserves close scientific examination from our predictive analytics team. They have analyzed millions of claims to provide our claims professionals with distinctive risk insights. And by identifying the specific drivers that impact your company's risks, we can help you manage them better.

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ANALYTICS VIDEO AT
zurichna.com/pa**

**ZURICH INSURANCE.
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LeaderBoard

CHARLES DOLAN AND FAMILY

+\$350 MILLION

NET WORTH: \$6.6 BILLION

Having founded Cablevision with just 1,500 subscribers in 1973, Dolan sells it for \$17.7 billion to Altice, the cable giant run by French billionaire Patrick Drahi.



HIP-HOP CASH KINGS

Top-Earning Rappers

“DON’T WORRY if I write rhymes; I write checks,” Sean Combs once rapped, and that still rings true: The artist otherwise known as Diddy earned \$60 million in the past 12 months, more than any other hip-hop artist.

Though he rarely performs now, Diddy captures this year’s Cash Kings crown thanks largely to ancillary businesses: music cable channel Revolt, Sean John clothing, alkaline water brand Aquahydrate and Ciroc vodka, the last of which brings in the bulk of his bucks. For much more, see forbes.com/hip-hop-cash-kings.

1. DIDDY \$60 MILLION

2. JAY Z \$56 MILLION

Twenty-one concerts with wife Beyoncé as well as his entertainment company Roc Nation and the Armand de Brignac champagne label all boosted the multifaceted mogul’s bottom line.

3. DRAKE \$39.5 MILLION

The Canadian import had the best year of his young career, thanks largely to tour earnings: 50 shows during our scoring period, with a nightly average gross of nearly \$1 million.

4. DR. DRE \$33 MILLION

Selling Beats headphones to Apple earned him \$620 million last year and the top spot on our list. This year he has to be content earning 95% less, mostly from catalog royalties and smaller checks from Apple. He also executive-produced the hit biopic *Straight Outta Compton* and released his long-awaited third studio album.

5. PHARRELL \$32 MILLION

The “Happy” singer is extraordinarily diversified, clocking multimillion-dollar paydays from touring, music sales and his role as a judge on *The Voice*. He also blends his fashion sense with an entrepreneurial streak via his Billionaire Boys Club and Ice Cream clothing lines.



Dollar amounts represent pretax earnings between June 1, 2014 and June 1, 2015.

TALE OF THE TAPE

Janis vs. John

Her psychedelic Porsche, his rockin’ Rolls: Whose flower-powered ride tops the charts?

MUSICALLY, JANIS JOPLIN prayed for a Mercedes-Benz. In reality she drove a Porsche—just like all her friends. Next month her 1965 Porsche 356c 1600 Cabriolet will be auctioned in New York by RM Sotheby’s. When Joplin bought the car in 1968 it was, fittingly, “pearl white,” but the singer (who died two years later) had roadie Dave Richards give it a psychedelic paint job. The car has a presale estimate of \$400,000, but that would still put it miles behind the \$2.3 million (an inflation-adjusted \$5.1 million) fetched three decades ago by John Lennon’s trippy 1965 Rolls-Royce Phantom V.



JOHN LENNON

JANIS JOPLIN

MODEL

1965 ROLLS-ROYCE PHANTOM V

1965 PORSCHE 356C 1600 CABRIOLET

FACTORY COLOR

VALENTINES BLACK

PEARL WHITE

CUSTOM PAINT JOB

YELLOW, WITH VIBRANT FLOWERS, RESEMBLING A GYPSY CARAVAN PATTERN

YELLOW, WITH A MURAL CALLED “THE HISTORY OF THE UNIVERSE,” FEATURING BUTTERFLIES AND JELLYFISH

MUSEUM PROVENANCE

LENNON DONATED THE CAR TO THE SMITHSONIAN IN 1977. THE MUSEUM SOLD IT AT AUCTION 8 YEARS LATER, WHEN IT WAS PURCHASED BY THE OWNER OF THE RIPLEY’S BELIEVE IT OR NOT! MUSEUMS.

FOR THE PAST 20 YEARS THE CAR HAS BEEN ON DISPLAY AT THE ROCK AND ROLL HALL OF FAME. IT WILL NOW BE REPLACED BY ZZ TOP’S 1933 FORD ELIMINATOR.

EXPERIENCE ON THE MEAN STREETS

LENNON WAS A FAMOUSLY BAD DRIVER AND EMPLOYED A CHAUFFEUR.

JOPLIN’S PORSCHE WAS ONCE STOLEN AND PAINTED OVER BY THIEVES; IT WAS LATER RECOVERED AND RESTORED.

THE END OF THE ROAD

ON OCT. 1, 1970, THREE DAYS BEFORE SHE DIED, JOPLIN RECORDED “MERCEDES BENZ” AND A BIRTHDAY SONG FOR LENNON: “HAPPY TRAILS.”

HIP HOP: EDITED BY ZACK O’MALLEY GREENBURG AND NATALIE ROHEIMED; TALE OF THE TAPE BY MICHAEL SOLOMON
JANIS JOPLIN: RB / REDFERN; JOHN LENNON: KEYSTONE-FRANCE / GETTY IMAGES; GETTY IMAGES (TOP)



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IVAN GLASENBERG
-\$300 MILLION

NET WORTH: \$2.2 BILLION

His mining giant, Glencore, is in free fall, thanks to sinking commodities prices and a debt-laden balance sheet. CEO Glaserberg has lost \$3.2 billion in five months.



CONVERSATION



“MOVE OVER, Jeb Bush, Carly Fiorina and Fox News,” said CNBC’s John Harwood after the publication of this year’s Forbes 400 issue (Oct. 19). “Donald Trump has somebody else to argue with.” That would be us, of course, for having the temerity to estimate his net worth as \$4.5 billion, some \$6 billion less than The Donald calculates. “They’re *wrong*,” Trump told Harwood. Reader reaction to his brio, unsurprisingly, spanned the spectrum. Tweeted @AG_Conservative, “Trump is an insecure and superficial person who wants to be ‘The King.’ Problem for him is we live in a Republic.” Parried David Todd on Facebook: “Sorry, FORBES, I’m voting for Trump! Good try, though.” Hey, we just report—you decide.

POL POSITIONS

Our Forbes 400 “Money & Politics” issue had politicos on both sides of the pond pontificating on social media.

HILLARY CLINTON’S MISSING MILLIONS

@GERRYHASSAN, columnist, *Sunday Mail*: “The plutocratic political classes personified: @HillaryClinton has mislaid \$50 million!”

@CHABAILEY “The Mystery of Hillary’s Missing Millions,” via @Forbes: Clinton wealth game merits tough questions.

@DGOATES As usual, the Clinton math just doesn’t compute.

THE INTEREST GRAPH

Where are the millions of clicks? Same place the billions of dollars are. Readers swarmed Forbes.com for our annual ranking of America’s wealthiest.

The Forbes 400: America’s Richest

4,143,200 page views

Meet the African-American Billionaire Businessman Who’s Richer Than Michael Jordan

475,149

The Mystery of Hillary’s Missing Millions

405,306

Inside the Epic Fantasy That’s Driven Donald Trump for 33 Years

232,205

Exclusive Interview: Charles Koch on How to Save America

96,172

FORBES 2016 Presidential Candidate Wealth List

53,660

This Billionaire Knows the Secret to Saving a Family Business

50,973

Seat of Power: Baron’s Castle

THE BOMB
2,860 VIEWS

“It’s harder than ever to join The 400. Price of entry this year: \$1.7 billion, the highest in the 34 years we’ve tracked American wealth.”

“At \$2.5 billion, private equity titan Robert Smith is now the second-richest African-American, trailing only Oprah Winfrey.”

“Where did that \$50 million go? No one seems to know, and the Clintons aren’t offering any answers.”

CHARLES KOCH WANTS TO SAVE AMERICA

@MATEAGOLD, national political reporter, *Washington Post*: “Charles Koch is not very chatty on the topic of a possible Donald Trump presidency.”

WHAT ARE THE 2016 CANDIDATES WORTH?

@CHRISCITORIK, WBZ Radio, Boston: “Twenty candidates, only three aren’t millionaires. This is why politicians want to keep the haves & have-nots where they are!”



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MORE HORRORS TO COME



THE REFUGEE ISSUE has deep historical roots that go back to the 14th century. The Black Death killed up to half the population of Europe, but it led to a concentration of efforts to make childbearing safer, which, in due course, gave rise to the first hints of the population explosion to follow.

In the 16th century Europeans began traveling all over the world, and it wasn't long before they started settling abroad. This colonization process

wasn't prompted merely by a spirit of adventure and the quest for gold, silver and other precious commodities but by the need for Europe's growing population to find jobs. The trend intensified until the mid-20th century. The whole of the Americas and Australasia, parts of South Asia and sub-Saharan Africa were thus colonized. Argentina's population doubled within 20 years, thanks mostly to Italian and Spanish immigrants, including the parents of Pope Francis.

World War II brought this process to a halt. In effect, it spelled the end of the European colonial empires, though the winding-up process took four decades to complete. The decline in European birth rates meant there was no surplus population to become the new generation of settlers, so these empires started to wane from a lack of recruits.

Population movements, however, took a new turn. Almost imperceptibly the Third World had begun adopting First World medical standards, particularly in the management of childbirth. The result was a huge jump in the numbers of children who survived, followed by a growing need to export the new population surplus. Britain first experienced this with the arrival of West Indians who had been recruited as nurses for the National Health Service. The French, who had exported a million Europeans to Algeria during the 19th century, now found that growing numbers of native Algerians were coming to France.

The difficulties presented by the upsurge in indigenous populations in colonized countries were compounded by the disappearance of the colonial governments. The rule of law began to erode, and a new, sinister term came into use: the "failed state." The first of these—Somaliland, Eritrea and Libya—were states of the former Italian empire. They became lawless dictatorships, eventually falling into chaos. In desperation their hugely inflated populations started to seek sanctuary elsewhere.

The African-Asian population flood, now in full spate, was enormously increased by Muslim fundamentalism. Many imams began to preach that each Muslim wife—or wives—must give birth to a child a year. "We cannot compete with Western technology," they extolled, "but we can outdo them in procreation." Third World populations

everywhere have increased, but the increase in predominantly Muslim states has been twice the rate of others.

COLLAPSE OF ORDER

The detonator for the present refugee crisis was the so-called Arab Spring. Far from being the birth of democracy that optimistic Western commentators first supposed, this series of events in North Africa and the Middle East marked a further and dramatic stage in the postimperial collapse of order and the proliferation of failed states.

Syria, which has ceased to exist as a geographical entity, has produced the largest numbers of terrified homeless. Eritrea and Libya are close behind, with almost every other territory in Africa also contributing refugees—and the numbers are growing. The supply of frightened Africans who will risk their lives to get to Europe is, in practical terms, limitless.

What's particularly disturbing is that African states that once had bright futures are now teetering on the brink of ruin. South Africa is a case in point. If its mining industry goes under, the whole of sub-Saharan Africa will join the rush to get out.

The idea that the EU is the solution to the world's refugee crisis is nonsense. The more people it takes in, the more will want to come. The only European state that has the capacity to accept massive numbers of refugees is Russia—but no one, not even Eritreans, wants to live in Putin's kleptocracy. Putin bears a heavy responsibility for this crisis, because his armed support of Syria's cruel and desperate Assad regime is the biggest factor in the expanding flood of homeless Syrians.

Removing Putin would be the single most effective contribution toward stemming the flow of refugees. But who is to do that? President Obama, whose deliberate inactivity lies at the root of this crisis, refuses to do anything to help Europe. So we must grit our teeth and prepare for what is to come. **❦**

PAUL JOHNSON, EMINENT BRITISH HISTORIAN AND AUTHOR; DAVID MALPASS, GLOBAL ECONOMIST, PRESIDENT OF ENCIMA GLOBAL LLC; AND AMITY SHLAES, WHO SERVES AS PRESIDENTIAL SCHOLAR AT KINGS COLLEGE AND CHAIRS THE COOLIDGE FOUNDATION BOARD, ROTATE IN WRITING THIS COLUMN. TO SEE PAST CURRENT EVENTS COLUMNS, VISIT OUR WEBSITE AT WWW.FORBES.COM/CURRENTEVENTS.

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PULLING DOWN STATE CREDIT RATINGS



BACK IN THE 1980s a man who sat on the Los Angeles County Regional Planning Commission told a story about a Christmas ham he'd received from a local cemetery, Forest Lawn.

"My first Christmas as commissioner—when I received the ham—I tried to return it at once, though for the record, I did not, since no one at Forest Lawn seemed authorized to accept hams." A year later another ham from Forest Lawn arrived, and this time the

commissioner gave the ham to a worthy charity.

The third year the officer gave the ham to some worthy friends, who were hosting a party. The fourth year the commissioner held his own worthy party and served the ham. The commissioner recalled what happened next: "In the fifth year, about the tenth of December, I began wondering, where is my ham?"

We all look for our hams. The only remarkable part of this story is that the official, whose name is George Lefcoe, actually decided to speak publicly about the subtle, gentle, gradual process of corruption. The rest of us may at times consult our inner commissioner, but we don't talk to others about what we take. After all, such work, especially in a state, county or city office, long took place in the shadows. In the 1970s, when Lefcoe began his work as a commissioner, the 64KB Apple II computer was state of the art, and there was no Internet chatter. There was no Internet.

Yet the decisions to take the ham add up. In the end bureaucrats make decisions that benefit the ham-givers, not the voters. Ham becomes hams, hams become pork, and a low credit rating, such as California's, results.

You can only wonder how many servings of prosciutto on melon it took for the Los Angeles City Council to approve the city's bid to host the 2024 Olympics, as it did in September. That event is certain to go over budget. A contingency fund of \$400 million is already in the plans.

All the more welcome, then, are projects like *openthebooks.com*, a new drive that uses big data to make the work of city, state and federal government transparent. Open the Books was founded in Illinois (one of the porkiest states in the union) by Adam Andrzejewski, a big-data talent. Andrzejewski and his team have amassed the computing power to capture a great share of the federal checkbook's vendor spending in the U.S., as well as more than 48 states' checkbook payments to vendors.

Open the Books can also trace public salaries, pensions and campaign donations. Donors and subsidy recipients often turn out to be the same. Open the Books created an app that shows it all: the beauty school

that receives more than 100 times in grants and student loans what it charges in tuition, or the \$1.67 million in federally guaranteed loans and hundreds of thousands in subsidies and direct payments received by the brother of a former Illinois director of agriculture.

OPEN BOOKS

Open the Books is not alone. Computing power has made such work cheap and possible for any graduate student to tackle. Another team, the Environmental Working Group, has done particularly gratifying work on the tens of billions of dollars in farm subsidies that were handed out between 1995 and 2012. It turns out that in California between 1995 and 2003 the average payment was 29 times the size of that to farmers in other states. The *Washington Post* offered up a list of components in a recent agriculture bill, noting that the bill authorized funds for the growth of "industrial hemp"—*Cannabis sativa* L.—for research purposes by colleges and universities.

A spotlight makes officials squirm. The very existence of data-heavy watchdogs deters.

But one aspect of the new "expose 'em" culture warrants caution. Watchdog groups tend to leap into litigation, and not just for the purpose of prying information out of reluctant agencies via the Freedom of Information Act. Litigation itself is every bit as arbitrary as the decision to favor one ham-giver over another. Justice by litigation can be as corrupt as the subjects it targets.

Minds as thoughtful as George Lefcoe's will be leery of joining a government in which the scrutiny will be unrelenting. Only lesser brains and automatons will be willing to take a job in a place where metrics and watchdogs rule. The waste of subpar decisions by these mediocrities will cost the people plenty, too.

Still, twinned with reform laws, watchdogs are welcome. Cleaner government is something for which the public has great appetite. **F**

AMITY SHLAES, PRESIDENTIAL SCHOLAR AT THE KINGS COLLEGE AND CHAIR OF THE COOLIDGE FOUNDATION BOARD; PAUL JOHNSON, EMINENT BRITISH HISTORIAN AND AUTHOR; AND DAVID MALPASS, GLOBAL ECONOMIST, PRESIDENT OF ENCIMA GLOBAL LLC, ROTATE IN WRITING THIS COLUMN. TO SEE PAST CURRENT EVENTS COLUMNS, VISIT OUR WEBSITE AT WWW.FORBES.COM/CURRENTEVENTS.

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PRO SPORTS' ACHILLES' HEEL



PRO SPORTS is booming. Franchise values are way up. But every major American pro sports league has a sore spot that threatens its future.

The National Football League is rife with life-shortening injuries and performance-enhancing drugs. The two are related. Juiced players are bigger and faster—not unusual are 260-pound pass rushers who run a 4.6-second 40-yard dash—and collide with the force of crashing cars.

Pro basketball has too many games—82 in a regular season, which means more than 100 for those teams making the finals. How long before game seven of the NBA finals is played on the Fourth of July?

Major League Baseball offers scant appeal to Millennials. African-American participation is way off. A game designed for two hours often stretches past three. And in professional hockey you can often injure the other team's star player with little consequence.

Then there's the gambling. The NFL and NBA embrace such sites as Draft Kings and Fan Duel as tickets to a rich future. Put aside the questionable legality of fan gambling—why is this legal and not online poker?—it won't be a salvation. This is what will happen: Fans will lose interest in buying tickets to live games.

Another scourge of all major sports: horrible owners who become entrenched. Two great NBA franchises are great no more—the New York Knicks and the Los Angeles Lakers. They are laughingstocks. The owners of both are incompetent to their core. How odd that the two largest cities in the U.S. should have two of the worst NBA teams.

Ex-Microsoft CEO Steve Ballmer surveyed the wreck of the L.A. Lakers and stepped in last year to buy the previously worst-owned NBA franchise, the L.A. Clippers. The \$2 billion price Ballmer paid was a bargain. The Clippers quickly became L.A.'s “it” team. And the Lakers have been reduced to a Schadenfreude outlet store.

LESSONS FROM THE WORST

If the rock-bottom, worst-ever owner in pro sports used to be Donald Sterling of the L.A. Clippers, the losers now hail from football. Dan Snyder's Washington Redskins have become a punch line. We all have our opinions on whether Native Americans should be co-opted into pro sports team names. The University of Illinois Fighting Illini and the Florida State Seminoles are deemed dignified presentations, so they live on. The University of North Dakota Fighting Sioux, however, are no more. This only shows that good people can make different choices. But “Redskins”?

RICH KARLGAARD IS THE PUBLISHER AT FORBES. HIS LATEST BOOK, *TEAM GENIUS: THE NEW SCIENCE OF HIGH-PERFORMING ORGANIZATIONS*, CAME OUT IN JULY. FOR HIS PAST COLUMNS AND BLOGS VISIT OUR WEBSITE AT WWW.FORBES.COM/KARLGAARD.

The real measure of Snyder's incompetence is the team's record under his ownership. Since Snyder bought the team in 1999, the fabled franchise has won only 42% of its games. Snyder has run through eight head coaches while meddling in player lineups.

On the other side of the country the pilots of the San Francisco 49ers have leapt to the top of the worst-owner charts. The 49ers have won five Super Bowls—only the Pittsburgh Steelers, with six, have won more—but none has been during the 15-year stretch of York-family ownership. The Yorks (John, Denise and son Jed) fired the two most successful coaches they've had. One, Jim Harbaugh, took the 49ers from the abyss to the Super Bowl in two seasons. He led them to three consecutive NFC championships. But CEO Jed York thought Harbaugh was too intense and let him go, after first trying to sabotage the coach's reputation.

Harbaugh is now coaching at the University of Michigan. As all but the Yorks could have predicted, Harbaugh is turning the Wolverines back into a winning team.

In 2005 the York-owned 49ers had the first pick in the NFL draft. They declined Aaron Rodgers to take Alex Smith of Utah. Smith, now with the Kansas City Chiefs, is what NFL insiders call a “game manager.” That's a quarterback who doesn't make many mistakes but whose talents are limited. Smith is rated 20th out of 32 starting QBs in the NFL. Number one is—you guessed it—Rodgers, 31. If he stays healthy, Rodgers stands to become the best pro QB ever—better than Brady, Montana and Elway.

Why did the 49ers not take Rodgers? The Yorks and their lackey general manager didn't like the young QB's attitude. Rodgers is extremely smart and confident. The Yorks don't like smart and confident. They didn't like it in Harbaugh and didn't like it in Rodgers.

I love sports, because it's such a high-stakes yet ultimately harmless way to learn about character and management. Great sports franchises and coaches can teach us a lot—as can the worst ones. **F**



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Verticals

November 2, 2015

Plastic filaments like these are the building blocks of the 3-D-printed future. HP hopes to dominate the industry with a new way to shoot hot plastic through its ink-jet printers.

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Innovation's Accountant

The price of Viagra—and other older drugs—is going up. Pfizer's Ian Read insists the problem is health insurance, not pharma.

BY MATTHEW HERPER

When Ian Read, an accountant and company lifer, took over as Pfizer's chief executive in December 2010, the drug firm—the world's largest—was facing the impending patent expiration of Lipitor, the bestselling drug ever made, and the utter failure of one of the most lavishly funded research laboratories on the planet to develop much of anything. The stock was suffering, and Read's predecessor—Jeffrey Kindler, a bearlike lawyer hired from McDonald's—had just spent \$68 billion to buy rival drugmaker Wyeth in a Hail Mary strategy shift. Now Read had to make it work.

"I'm not going to talk about mission or vision," Read recalls telling employees back then. "This is critical. We've got to talk about imperatives." Namely, cutting costs, pleasing

shareholders and fixing the company's R&D operation (it had spent \$40 billion over five years to produce just four drugs, which today have combined annual sales of about \$2 billion). Read cut head count from 130,000 to a low of 80,000 at the beginning of this year, raised \$32 billion by selling off extraneous divisions and got seven drugs approved. He made Wall Street salivate over the idea of breaking Pfizer into two companies, a slower-growing business that sells older medicines and a hot one that focuses on breakthroughs. Though the paring down cut sales 27% to \$50 billion, annual net income has increased 10% to \$9 billion. The market has applauded: Pfizer shares are up 94% over Read's tenure, 23% more than the Arca pharmaceutical index and more than double the gains of heavy-weight rivals like Merck and AstraZeneca.

Restoring the public's shaken trust in pharma

Pfizer Chief Executive Ian Read behind his desk in Manhattan.



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was one of Read's imperatives, too, and he thinks he's "done what's necessary." Democratic presidential candidates Hillary Clinton and Bernie Sanders disagree, and have made outrageously expensive medications a campaign issue. A callow 32-year-old former hedge fund manager, Martin Shkreli, made things far worse by jacking up the price of a 62-year-old lifesaving drug, Daraprim, by 5,000% and instantly became the most hated man in America. Clinton tweeted about him to promote her own plan to lower drug prices.

Now Read, with his calculating mind, must get through the public's rage over six-figure price tags for breakthrough drugs and yet keep Pfizer's pricing power more or less intact. Doing so is absolutely critical: 34% of Pfizer's revenue growth over the past three years has come from increasing prices on existing drugs, according to SSR, a Stamford, Conn.-based consulting firm. New medicines, especially for cancer, are selling for \$100,000-plus—prices that were unimaginable five years ago.

Read was born 62 years ago in Scotland but grew up in Rhodesia, where his father worked as a carpenter and his mother was a nurse. He received a bachelor's degree in chemical engineering from Imperial College London in 1974 and became a chartered accountant in 1978. That same year he joined Pfizer as an auditor in Latin America and worked his way up to run operations in Chile, then Brazil and, by 2002, all of Europe and Canada. When Kindler, who had joined Pfizer as general counsel in 2002, became CEO in 2006, Read was elevated to run worldwide marketing. As Kindler stumbled, the board turned to the savvy and experienced accountant.

Read's views on drug prices were shaped by his decades inside Pfizer's marketing machine. He points to an analysis showing that Lipitor and cholesterol-lowering drugs like it generated \$1.3 trillion in economic benefits (at a cost of just \$305 billion) between 1987 and 2008 by preventing heart attacks and strokes. A similar analysis shows that cancer drugs generated \$1.9 trillion in benefits between 1988 and 2000, with drug com-

panies pocketing no more than 19% of that.

"What's sad is this," Read insists. "When you look at the totality of the health care system, everybody says, 'Oh, my God, we can't afford what we're spending on health care.' But nobody looks on the other side of the ledger."

Read insists drug companies don't make undue profits. He points out that, in terms of return on capital or return on assets, pharma



A-coin-ability: good for a session of "straight talk."

is just average, far below packaged goods and consumer products. Many investors think drug R&D is a worse financial investment than an index fund. From 1997 to 2011 Pfizer spent \$7.7 billion on R&D for every new drug that reached the market.

That's part of the reason the drug industry has been in a decades-long process of consolidation, in which Pfizer has been the biggest acquirer. It got Lipitor from its \$110 billion purchase of Warner-Lambert in 2000 and arthritis pill Celebrex from the \$60 billion purchase of Pharmacia in 2003. Mergers disrupt research, and Kindler was reluctant to do another. But as Pfizer's drugs failed and shares approached 15-year lows, he bought Wyeth in January 2009 for \$68 billion.

Kindler was gone 23 months later, and Read was left to make the deal work. He found that some basic processes were broken. One drug application was so badly put together that the FDA refused to review it—a rarity for a big pharma company and an embarrassing first for Pfizer.

"Who's owning this?" he demanded of the team in charge of the effort. No one spoke up. "Everybody around this table knew there was a substandard application, yet no one was prepared to speak up."

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His solution was emblematically Pfizer: Hand out to every employee a gold coin that says “OWNIT!” on one side and “Straight Talk” on the other. Put the coin down, “Straight Talk” side up, and the company says it will protect you when you tell your boss he’s wrong. For a company drowning in Orwellian corporate speak (Read’s effort to improve the labs is called “fixing the innovative core,” and one round of layoffs was called “Adapting to Scale”), the ham-fisted gimmick was a way to create accountability.

Wall Street didn’t care about the coin, of course. Instead, investors got excited when, on his first earnings call, Read said he would explore how the company’s various businesses can create the most value, “be it inside or outside Pfizer.”

Read made good on the hint. He sold Pfizer’s baby formula business to Nestlé in April 2012 for \$12 billion and in February 2013 spun off its animal-health division, renamed Zoetis, as a \$21 billion (market cap) company, generating \$17 billion for Pfizer shareholders. The real exciting idea, though, is splitting Pfizer in two, separating new drugs from older ones (like Lipitor) that have lost patent protection but still generate billions of dollars in sales. Investors could choose risky, fast growth or safer, steady sales. A decision is expected by the end of 2016.

But then, last year, Read decided to make his own megabid, offering \$100 billion for London’s AstraZeneca in a hostile deal. Between 70% and 90% of Pfizer’s cash is trapped outside the U.S., and the company can’t move it back without paying U.S. taxes. Buying AstraZeneca would have used some of that cash and moved Pfizer’s tax domicile to the United Kingdom, a tax-avoiding strategy called an inversion. “It was a way of improving our capital allocation by getting Pfizer’s earnings stream into a competitive tax environment,” Read says.

The proposal generated a firestorm of controversy in Congress and the British government. Investors were lukewarm. Read walked.

There are signs that Read has improved Pfizer’s R&D. Take Ibrance, a new breast cancer drug that delays tumor growth. UCLA’s Dennis Slamon, who ran a study of Ibrance, said the

results were among “the most impressive” he had ever seen. But Wall Street analysts, scarred by years of disappointing lab results, countered that approval was “unlikely.” The FDA approved Ibrance in February.

A bigger question is whether Ibrance is too expensive. It costs \$118,000 per patient per year, and other cancer drugs, like Merck’s Keytruda and Amgen’s Blincyto, cost more. One drug combination from Bristol-Myers Squibb for melanoma can cost \$256,000 per patient.

“I understand the physicians saying, ‘Look, these prices are too high,’” Read says. “It’s because their patients can’t get access. That is an insurance issue.”

But even though Read sees negotiations with insurers as “arduous,” there’s really little an insurer—or Medicare—can do to bring down the price of an effective cancer drug. Insurers have three options: pay up, pass the cost on to patients or not pay at all. Read may be right to insist that insurance should always pay the full cost of cancer meds—that’s the point of insurance, after all—but there are no effective market forces acting to control prices.

Read has another pricing problem: Pfizer’s dependence, shared with other large drug companies, on raising the prices of older medicines. Over the past three years Pfizer has increased the net price of Viagra by 57%, of Lyrica (for chronic pain) by 51% and of hormone replacement therapy Premarin by 41%, according to SSR. Pfizer is not alone, either. AbbVie got 112% of its revenue growth from price increases and Bristol-Myers Squibb 47%.

But this practice may already be coming to an end. SSR analyst Richard Evans says that over the past year the drug industry’s net price increases have been almost flat. Pfizer points out that its overall sales are dropping and that middle-tier health plans under the Affordable Care Act often leave patients paying half their drug costs, which, again, Pfizer says is the real problem.

Polls show that 83% of Americans would like Medicare to be able to negotiate drug prices, but that would require agreement from both parties, which is unlikely. Political gridlock—a drug giant’s best friend. ✱

BY THE NUMBERS

INTERNET OF WHICH THINGS?

Smart home technology is all the rage in Silicon Valley, but overall market penetration remains meager. Nearly two-thirds of Americans “don’t know much” about such gadgets, according to the Harris Poll, and smart thermostats and connected appliances remain rare in U.S. homes.



Share of Americans with one or more of these devices at home


WIRELESS SPEAKERS	17%
SMART THERMOSTATS	11%
SMART/WIRELESS HOME SECURITY SYSTEM	9%
DOMESTIC ROBOTS (LAWN MOWER, VACUUM CLEANER)	8%
SMART SMOKE/CO DETECTORS	6%
SMART LIGHTING	6%
HOME ENERGY-USE MONITORS	5%
SMART DOOR LOCKS	4%
SMART/CONNECTED REFRIGERATOR	4%
SMART/CONNECTED LAUNDRY MACHINES	4%
SMART WATER MACHINES	2%

SOURCE: THE HARRIS POLL.

FINAL THOUGHT



“All bleeding eventually stops.” —JEFFREY M. GOLLER

A man in a dark suit is seen from behind, standing in a large, modern hotel lobby. He is holding the handles of a large glass door that is slightly ajar. The lobby is filled with people in motion, some blurred, suggesting a busy environment. The floor has a circular pattern, and large windows in the background let in bright light.

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HP or HP: Choose One

Tech's biggest conglomerate is splitting up in November. The right one to bet on is the one that looks like a tobacco company.

BY GEORGE ANDERS

Split a big company in two and the spun-off segment is likely to beat its peers in stock market performance over the next year or two. That's the conclusion of academics such as Purdue's John McConnell and Penn State's Patrick Cusatis, who have studied hundreds of splits, going back to the 1960s.

This pattern is about to get a big new test as the granddaddy of all tech conglomerates, Hewlett-Packard, gets ready to cleave itself on Nov. 1, after more than a year of preparation. It's been a messy journey, with 30,000 announced layoffs and more than \$2 billion in separation expenses to date. HP's stock price is off 17% since the breakup was announced in October 2014, versus a 4% rise in the S&P 500.

Still, past troubles can create cheap stocks. HP trades at just 7.3 times this year's forecast earnings per share, making it one of the most beaten-down tech stocks in the S&P. Chief Executive Meg Whitman has been telling investors that "we're shifting from turnaround to growth mode." If she's right, at least half of the Palo Alto, Calif. company should still have some kick.

Investors just need to decide which half. Legal filings define the company's business-computing side, Hewlett Packard Enterprise, as the entity being spun off. Yet Enterprise is acting like the surviving core business. It will end up with about 80% of the old company's head count, about \$52 billion a year in revenue—and a vast product line that ranges from servers and networking gear to business software and tech services. What's more, Whitman herself is sticking around as its CEO.



TIMOTHY ARCHIBALD FOR FORBES

HP Inc., the printing and consumer-computing business, is more likely the right segment to watch. Nobody will mistake it for a growth stock; the company's own guidance to analysts suggests that revenue will decline about 2%, to \$52 billion for the year ending Oct. 31, 2016. But the dowdy laptop and PC business remains mildly profitable and chews up very little capital, thanks to made-in-China sourcing. HP Inc. scratches out 3% pretax margins from its personal systems division, not a far cry from category leader Lenovo's 5.3%. Add in the printing unit's lock on high-margin ink cartridges and it's clear why analysts expect HP Inc. to gener-

New HP Inc. CEO Dion Weisler: "Cigarettes are bad for your health. Printing is good for you."

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ate some \$2.65 billion in free cash flow in fiscal 2016—nearly 30% better than what Enterprise is likely to achieve.

HP Inc.'s CEO-to-be, Dion Weisler, bristles at the idea that he's running tech's equivalent of a tobacco company. "Cigarettes are bad for your health," he says. "Printing is good for you." But it's a comparison that won't bother investors. Since shedding its international business in 2008, tobacco giant Altria has seen its stock climb 14% a year, more than double the S&P's pace, even though revenue has been nearly flat. Altria's robust cash flow pays for dividends and stock buybacks that keep investors happy.

HP Inc. is heeding that playbook. It plans to pay \$865 million in dividends next year, creating a likely yield of about 3%. By contrast, HP Enterprise is going with a payout rate of about half that. HP Inc.'s incoming chief financial officer, Cathie Lesjak, says she plans to return nearly 75% of free cash flow to shareholders, via dividends or buybacks. Lesjak, who became Hewlett-Packard's CFO in 2007, is well regarded on Wall Street and presumably could have thrown in her lot with either half. Weisler says she joined his team mainly because he hasn't been a public company CEO before, so he needed a veteran to help him with Wall Street relations. That's plausible. Even so, when top executives play musical chairs, investors are often well served by watching where the CFO goes.

HP Inc. is still sorting out snarls that could hurt its first couple quarters of independent results. It's reliant on Europe and emerging economies at a time when the dollar is strong. Home photo printing is in decline with the rise of services such as Dropbox, Instagram and Snapchat. Laptop sales dimmed during the not-so-appealing reign of Microsoft's Windows 8 operating system; consumers may take a while to warm to the arrival of Windows 10.

Still, CEO Weisler sees lots of growth opportunities in the commercial printing of banners, signs and plastic packaging, as well as in copier sales. Down the road 3-D printing could be a big new market, too. HP Inc.'s ink-jet technology is well suited to making plastic parts, and Weisler isn't ruling out an eventual expansion

into printing other materials, too. The market is still a niche, though, and the tech needs to evolve more to achieve the speed, low cost and quality needed for mainstream manufacturing. "We can get one or maybe one and a half of those three right now," Weisler says. "That's it." But, he notes, ink-jet printing also evolved from a costly, clumsy start into a worldwide consumer mainstay. Even a slim shot at success adds an intriguing kicker to the HP Inc. story.

Whitman, for now, is keeping a toehold in both camps. She will become nonexecutive chair of HP Inc. as well as CEO of Enterprise. She told FORBES in September that she regards both jobs as "permanent," though business history would suggest that once the two companies have fully sorted out their separation issues, it won't be as necessary for her to have a formal involvement with both.

During a seven-hour analyst briefing in September the Enterprise team enjoyed all the choice morning slots; HP Inc. was relegated to the postlunch doldrums. Whitman—an experienced strategist with a Bain Consulting background—made a case that her business can use key themes such as cloud-based computing and digital security to win big customers for everything from computer hardware to software and services. Splitting off the consumer businesses will help with strategic clarity, she declared, adding: "We'll be more focused than we ever have been in how we innovate."

Still, Enterprise is stuck in an endless wrestling match with the likes of IBM, Dell, Cisco and EMC, all of which are trying to turn comprehensiveness into a strategic edge. Most years they battle one another to a draw. Whitman may be a master at handling complexity, but she's stuck in sectors that chew up a lot of capital, require high head counts and no longer grow much faster than the overall economy.

Two years ago in a FORBES cover story, Whitman raced through HP's lines of business in 90 seconds apiece, describing the key opportunities and challenges of each unit. She provided crisp summaries for each segment that's now part of Enterprise. Then we got to printing. In her words: "There are not that many challenges. This is a great business."



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FINAL THOUGHT



"A divorce is like an amputation: You survive, but there's less of you."

—MARGARET ATWOOD



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Find a Fatter Payout

Abaris pulls back the curtain on the business of income annuities.

BY WILLIAM BALDWIN

You can buy stock with a few mouse clicks and an \$8 commission. Why not an annuity? The possibility of online annuity sales should be intriguing to any cost-conscious saver—and terrifying to any traditional insurance seller. The established way for insurance companies to move investment products is to send agents out for long, thoughtful discussions over the kitchen table. The Web is a threat to that system.

For now the door to electronic sales of retirement policies is open just a crack. Abaris, a Philadelphia business started in March by two young Wharton graduates and a fellow University of Pennsylvania alum, wants to open it wider. Through its site you can get quotes from competing annuity vendors.

A 60-year-old woman wants to put \$100,000 into a longevity annuity that starts at age 80 and lasts her lifetime. This is a way to reduce the risk that she will outlive her assets and could make a lot of sense inside an IRA (*see box, p. 70*). Via Abaris, Guardian Life offers \$2,091 a month. Pacific Life pays \$2,102.

Transparency is what online quoting is all about, explains Matt Carey, chief executive of Abaris: “You should be able to compare every product that’s out there in payout rates and credit ratings.” Carey envisions a system in which buying an assortment of annuities from



different insurers would be as easy and as sensible as buying a portfolio of corporate bonds instead of just one. Life insurance companies do go under on occasion; Executive Life and Mutual Benefit Life both failed in 1991.

But the life insurance industry is not bursting with enthusiasm for either transparency or Internet selling. Two big players in the annuity market, Northwestern Mutual and New York Life, aren’t distributing through Abaris. Guardian is playing ball but does not have in place the mechanism for the real-time quote feeds that Abaris wants.

As for agents’ commissions, information is hard to come by and competition is, at the moment, faint. Carey says that his agency collects the usual fee (typically between 3% and 5%) and earns it by spending a lot of time with buyers, via Skype, phone and e-mail, and even in person, before closing a sale.

For now, that is, Abaris does not represent the threat to agents that Charles Schwab did to stockbrokers 40 years ago. Nor is an insurance-commission price war around the corner. In most states, Carey says, an “anti-rebating” law forbids agents to discount commissions.

In death-benefit insurance, to be sure, there is something to be said for protecting the income

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NEW YORK LIFE	A++	2,372	2,792
PACIFIC LIFE ²	A+	2,102	2,344

Rates may vary slightly by domicile of buyer. ¹Via Vanguard. ²Via Abaris. ³Midpoints of projected ranges. Not guaranteed; assumes continuation of present mortality and interest rates. SOURCES: INSURERS; ABARIS; VANGUARD.

A person wearing a blue helmet and a black shirt is climbing a steep, yellowish-brown rock face. A red rope is attached to the climber and extends upwards. The background shows a clear blue sky with a few wispy clouds and distant mountains with snow-capped peaks.

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WHICH ASSETS PAY THE BILL?

A decree last year by the Internal Revenue Service permits you to use some of your IRA to buy a deferred annuity. But being allowed to do something doesn't necessarily make it smart. Maybe non-IRA assets should cover the tab.

The rule allows a saver to burn as much as \$125,000 (but no more than 25% of total tax-deferred savings) on a longevity annuity that starts as late as age 85. The sum diverted is then out of the IRA, reducing the balance that must be paid out beginning at age 70½.

If you have ample resources outside your IRA, you might welcome a strategy that reduces those compulsory withdrawals. Moving \$125,000 off to the side cuts your taxable income by a sum that starts out at \$4,560 the first year and goes up from there.

But the IRS is not giving you a free ride. If you make it to the annuity start date without getting run over by a taxicab, you will get those annuity payments, they will be fully taxable and they will be a lot higher than \$4,560. They might kick you into a higher tax bracket.

Plan A: Invest \$125,000 from your IRA in a longevity bet. Plan B: Use \$125,000 that is just sitting around in a taxable account. If you have only nonspouse heirs, Plan A is better. If you die young, you leave behind that much more in non-IRA assets on which those heirs won't owe an income tax and that much less in IRA assets on which they will pay income tax.

If, however, you have a younger spouse who is likely to survive you, Plan B could make sense. In the event of your untimely demise, the survivor claims a deduction for your investment loss and marries that writeoff to a Roth conversion of an equal amount of IRA money.

When the dust settles on Plan B, the family is left with a tax-free Roth account, which is more valuable than either an IRA or a plain old brokerage account. The Roth can be stretched out to provide tax-free compounding for years.

Why can't children or grandchildren use Plan B? Because a key element is a joint return in the year of your death. Your spouse can file that return. They can't. —W.B.

of conscientious agents who know their customers. If discounters ran rampant, we might see more such unsavory buyers as the California ladies who were taking out life insurance policies on homeless men and then running them over with cars.

Sellers of annuities, though, don't have to worry about whether the buyer is up to no good or maybe has cancer. The worst thing a customer might do would be to secretly take vitamins.


The other argument offered for antirebate laws is the need to protect the consumer. Buying a life annuity is irrevocable, a necessary feature of an insurance pool that takes money from people who die young and hands it to people who live to be 100. So perhaps retirees shouldn't be making the momentous decision on their own.

Keith Moeller is a financial advisor in Minneapolis who sells deferred annuities from Northwestern Mutual but typically as part of a larger plan involving a careful analysis of retirement spending. He recently had a 68-year-old put 10% of his retirement account in an annuity

that will start at age 70½, 10% in another that will start at age 75 and the rest in a portfolio of stocks and bonds.

A plan involves psychology as much as mathematics. "Most of the conversations with clients are about 'How do I do this?' They are going to be closing the door on a job for the last time," says Moeller. A computer screen can't do that kind of hand-holding.

But what if you are a committed do-it-yourselfer and want no hand-holding at all? If you are expecting salvation at Vanguard, the no-load fund house, you may be a bit disappointed. Its annuities carry a sales load (2%) and feature second-tier insurers, like AIG subsidiary American General Life.

For now old-fashioned agents have a grip on most of the desirable inventory, namely, policies from firms with A++ credit ratings. Carey is nonetheless hopeful about winning over more insurers to his annuity bazaar. "Consumers are migrating online," he says. "The world is changing. This industry will change, too." Slowly. 

FINAL THOUGHT

 "You will know life and be acknowledged by it according to your degree of transparency." —DAG HAMMARSKJÖLD

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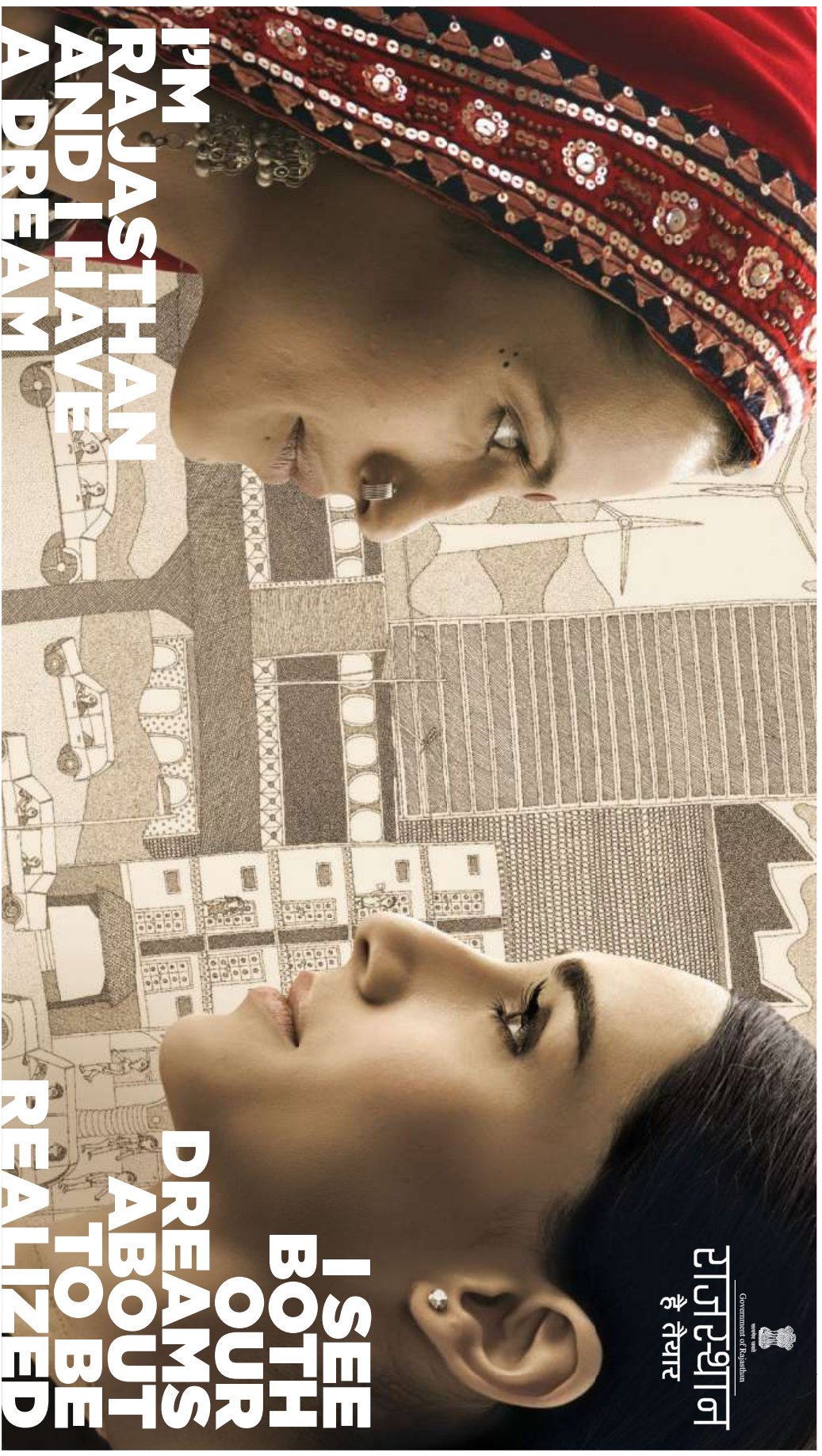
Jack Dorsey's CEO nod got the headlines, but Twitter's newly promoted COO has a big job: boosting the bottom line.

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Illustration by Govind Jogi, a tribal (Bheel) artist from Rajasthan, a state in India.

INFORMATION DRIVING EFFECTIVE GLOBAL RISK MANAGEMENT

By Joanne Sammer

A massive explosion in a busy Chinese warehouse district may top the evening news for a day or two before media attention moves on. Yet, for global corporations, such an event is a stark reminder of the risks involved in operating worldwide.

No company can ever completely avoid risk; for entities operating worldwide, managing risks for global locations requires special attention. Nonetheless, when armed with accurate data and risk management tools such as dashboard analyses, risk assessment matrices and benchmarking reports, risk executives can mitigate risk. But even with these tools, risk management executives are still missing two crucial assets to effectively manage risk globally—the first being accurate data. All risk management insight must be fueled by the best data available to make educated decisions. And what good is any data if it isn't properly communicated to the appropriate audiences? With that, the second crucial asset is a clearly defined process for sharing risk-related information throughout the organization.

"Real success in risk management comes from discussing that information and knowledge at all levels of the organization so people can keep risks in mind and make informed decisions," says James J. Marsh, CEO of Global Risk Consultants (GRC), a risk control firm based in Clark, NJ. "The growth and advancement of the risk management program happens only with this type of knowledge sharing."

ROLLING UP INFORMATION

Gathering and using risk-related information is a multilayered process occurring at every level of a company. For example, managers at individual plants use such information to understand the risk tolerance for their operations. At the regional level, the same information is integral to

creating and managing the risk portfolios for various territories. "How does the risk profile for a specific facility compare with that of others based on a range of risks, such as political, economic, hazard or people-related risks?" poses Marsh. "And how does that relate to the supply chain?"

At the corporate level of the supply chain, it becomes apparent that *all* risk-related information is relative when making strategic decisions, such as selecting an operation's location or identifying potential bottlenecks in the supply chain.

Another important detail to remember is that

managers can understand the risk profile on a location basis, then roll it up to the regional and geographic level, and then break it down by line of business, product flow interdependency and shared resources. "It's a very fluid process," says Marsh. "As the product lines shift and facilities become more or less

important, these changes impact the way the company views and deals with related risks."

When companies navigate the local insurance market to obtain coverage for overseas assets, this insight becomes more critical. "Companies must be able to present their risk portfolio in order to make sure the local market-



"Real success in risk management comes from discussing that information and knowledge at all levels of the organization so people can keep risks in mind and make informed decisions."

—JAMES J. MARSH, CEO, GLOBAL RISK CONSULTANTS

risk-related information is not restricted to current conditions. "This information can include the history of a particular area and its risk-related issues, as well as underlying trends," says Marsh. "By understanding those past issues, risk executives gain insight into how history affects current conditions—anything from war to weather-related risks." The ultimate goal is to gauge the risk occurrence's probability, frequency, overall impact and potential loss, and to then share this information with the appropriate audience.

With this foundation of information, risk

place understands the risks involved and has the capacity to cover those risks," says Marsh.

Much is beyond a company's control when operating globally; however, with a foundation of risk-based knowledge and a clearly defined process to communicate this knowledge, organizations have a better chance of recovering, even when the worst outcome imaginable becomes reality.



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IRRATIONAL FEARS YOU CAN BANK ON



BANK STOCKS HAVE LAGGED lately. Folks fear ills from future U.S. rate hikes, an emerging markets currency cliff, continued regulatory overreach and more. But it's simpler: It's behaviorism. Our last crisis was ultra-bank-focused, god-awful—and investors usually keep fighting the last war. In the June 2015 issue of the *Journal of Banking & Finance* three researchers from Germany's Technische Universität Dortmund demonstrated that irrational market

fears lead investors to panic, sentiment that punishes bank stocks regardless of basics. To put it simply, folks freak out on banks easier than on most stocks nowadays.

And they're freaking out now. You should game that. The best thing the Fed could do is hike rates so folks get over crying wolf. Initial rate hikes have never been problematic, ever. Time will tether the emerging market currency fears, like it did neatly in both 1997 and 1998. All these fears are priced. The fundamentals—less so.

Then, too, financials make up 21.6% of the world market (the very biggest weighting) and 16.5% of the S&P 500. Owning none risks getting left behind. If you dislike banks and you're right, you could still own a 10% weight and beat the market. If you're wrong, and banks

FOLKS FREAK OUT ON BANK STOCKS EASIER THAN MOST. YOU SHOULD GAME THAT.

bounce back as I expect, underweighting materially means you're toast.

Here are eight banks I like with widely varied features you can customize to build your specific portfolio banking needs:

JPMORGAN CHASE & CO. (JPM, 62) may be the easiest bank to own. Among the world's few largest by any measure, to me it's the best managed, has the best CEO in Jamie Dimon, covers all the bases and is a perfect proxy for Western banking. The negative? Scant surprise! It should do a bit better than banking overall but isn't likely a gangbuster. Still, at ten times my 2016 earnings estimate with a 2.7% dividend yield, it's plenty cheap.

Reader Henry Harvey writes asking about Spain's **BANCO SANTANDER (SAN, 6)**, among the hardest big banks to own and a great counterpoint to JPM. I've recommended it off and on over the years with mixed

success—most recently at 7.4 on Apr. 13. It's seesawed heavily. After two major up-spurts in this bull market, it's amazingly back to its 2009 lows. Arguably the euro zone's biggest bank, it's suffered nearly every headline risk imaginable, yet staggered sideways successfully to where now many simply disbelieve its financials and its CEO—and fear rot among its very many takeovers of recent years. I like the disillusionment. Expect a dividend cut and rising 2016 price with what I see as a 2016 P/E of 11 with a postcut 4% dividend yield.

Similarly, but on the small, Third World and riskier side, on July 20 I recommended Thailand's **KASIKORN BANK (KPCPY, 21)** at 24, suggesting you buy its downside volatility. Obviously, with the subsequent emerging markets fears there has been even more volatility. That makes sense. So buy more. Double down if necessary. It's a great high-volatility bank with nice growth prospects.

India's **ICICI BANK (IBN, 9.1)** is down 21% this year, again paralleling emerging markets fears. Like most emerging markets banks, folks fret that a minor upward rate wiggle by the Fed will impale these banks and their countries. ICICI is no different. But it's doing very well, basically: growing, profitable and well run. When these fears finally fade ICICI will have done well! Buy first.

Three more great second-tier banks that were hard-whacked by emerging markets fears are **BANCO DE CHILE (BCH, 66)**, South Korea's **SHINHAN FINANCIAL GROUP (SHG, 36)** and, triply whacked with Mideast terrorism fears, Turkey's **AKBANK (AKBTY, 5.1)**—off 30% year-to-date and 63% in the past five years.

Finally, my favorite small developed world bank with marked eastern European growth potential: Sweden's **SWEDBANK (SWDBY, 24)**. It grows moderately, has 150 branches in Estonia, Latvia and Lithuania, and is at ten times my 2016 earnings estimate with a 5.5% dividend yield. **F**

MONEY MANAGER KEN FISHER'S LATEST BOOK IS *BEAT THE CROWD* (WILEY, 2015). VISIT HIS HOME PAGE AT WWW.FORBES.COM/FISHER.

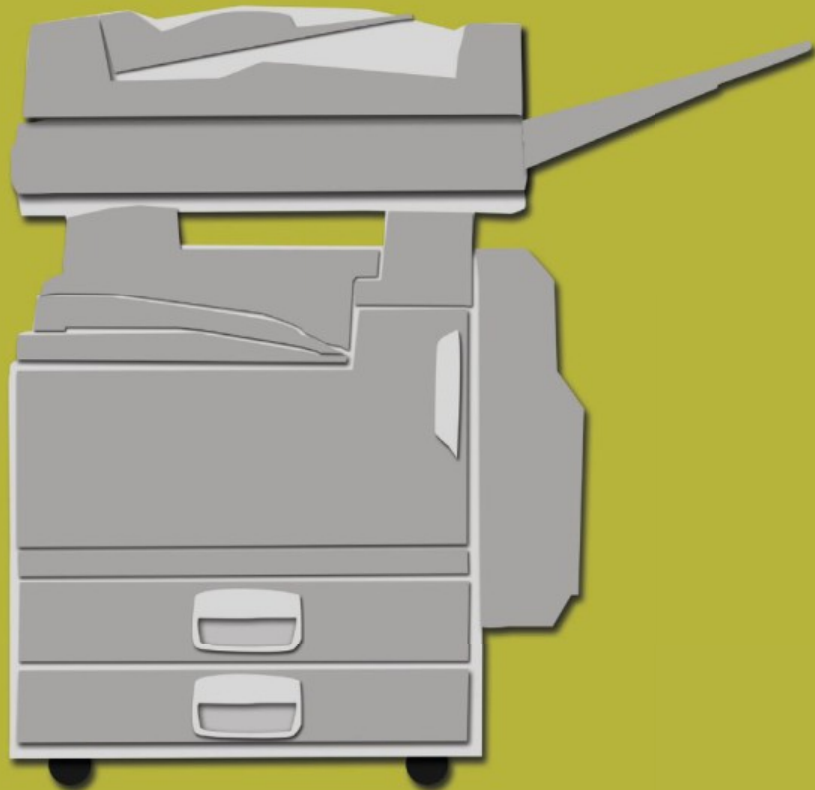
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GAME OF THRONGS



IN A YEAR that has featured an energy crash, a China crash and a biotech crash, you would think the few tech stocks left standing among the smoking ruins would be damned serious stuff.

Yet the market gods have an amazing sense of humor and, instead, decided to set entertainment at the top of their hit parade for 2015. As of mid-October Netflix is the top gainer this year among tech companies in the S&P 500, followed by Amazon.com and two videogame

makers, **ACTIVISION BLIZZARD (ATVI, 33)** and **ELECTRONIC ARTS (EA, 68)**.

The story behind the success of the last two is remarkable and potentially important as a window into what tech investors will most highly value not just the rest of this year but next year, too, in the event that slowing global demand leaves all public companies gasping for growth.

The first thing you need to know about the videogame industry is that revenues are Godzilla-size. Tech research firm Gartner sees the worldwide videogame market of console, online, mobile and PC products at \$111 billion by 2016 and \$128 billion in 2017. Compare that to the film industry, which had \$88 billion in worldwide revenue in 2015, according to PwC. If the videogame industry were covered as heavily as Hollywood by the media, every director, character designer and scenarist in hit franchises

IMAGINE CONSOLES LIKE THE IPHONE CYCLE BUT WITH REAL INNOVATION

like Call of Duty and Battlefield would be a celebrity stalked by TMZ. Instead they labor mostly in anonymity and just vacuum up cash from the universe without having to feel sorry about wasting money on good clothes or bodyguards.

How could the industry be that large? Well, almost everything you think you know about it is wrong. According to an industry trade group, around 42% of Americans play videogames regularly; the average age of a gamer is 35, with 27% aged 50 or over; women 18 or over amount to a third of the game-playing population versus only 15% for boys 18 and younger.

So, yeah, it's superpopular. If you were born after 1975, videogames are "just a part of your life; they don't replace anything," says research analyst James Mack. But it's more than that. Frequent gamers feel they get more for their money than they do from DVDs, movies and music. A typical

console game is \$60, it lasts forever and your friends can enjoy it for free. A single date at the cineplex for just two people is easily \$60 for tickets, food, driving and parking.

There's more: If it's been a while since you tried a game, you would be shocked at the gorgeous graphics, the intricate plot lines, the depth of character development and the sheer thrill of exploring new worlds. The latest installment of the Fallout franchise by Bethesda Game Studios contains 111,000 lines of actors' dialogue. That's 100 times more lines than a blockbuster movie has. In fact, the latest games have morphed into a mix of spectacle, sport and art that attract tens of thousands to stadium competitions and conventions.

From a business standpoint, Activision and Electronic Arts are benefiting from a major sales cycle in PlayStation and Xbox consoles that offer improved speed, power and connectivity. Think of it as the iPhone cycle but with real innovation. The number of PS4 and XboxOne consoles will soon climb to an estimated 50 million worldwide from 30 million today.

According to Columbia Threadneedle Investments in Boston, Activision and EA are both enjoying sizable margin growth by increasingly bypassing retailers like Gamestop (GME) via downloads into the new consoles. EA's gross margins have gone from a low of some 60% a couple years ago to 75% now.

Companies are also increasing user engagement within games to boost monetization and customer retention. You pay \$60 for the latest Call of Duty disc, but you might then spend another \$60 per year on map packs and gear. Gamers are spending hundreds of dollars on microtransactions for virtual "player packs" for the sports games Madden and FIFA. In short, Electronic Arts and Activision are smart buys in a tech industry challenged for growth. It's not often you get to invest in innovative duopolists that, in terms of demographics and product cycle, have the wind at their backs. Be bullish on escapism. It is always in style. **F**

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MORE BUCK FOR THE BANG—on that precept rests the whole Nobel Prize-winning edifice of portfolio theory. You try to get the most buck (highest total return) for any given level of bang (explosively volatile prices).

But some investors don't care about total return as much as they care about income return. They want to live off yield. What's the optimal portfolio for someone like that?

An academic might be contemptuous of a preoccupation with dividends and interest, and I myself warn about the dangers of chasing yield. But David Blanchett, head of retirement research at Morningstar, has some sympathy for the yield-hungry.

Let us accept the fact, Blanchett says in a recent paper, that certain investors want a steady income. Rationally or not, they are loath to dip into principal. They can't live on the puny yields from stocks and bank CDs. What do we tell them to own?

To address the question Blanchett applies the techniques of portfolio theory but moves the goal. In the classic analysis the game is to maximize total return (price change plus income) for a given level of volatility in that return. In the alternative analysis the goal is to maximize income for a given level of volatility in that income.

The answers that come out are very different. Optimizing for total return gives you a big dose of common stocks, watered down with cash

You can find 6% coupons and more on junky securities. Why not grab them with both hands? Because fat yields chew up your capital.

That Vanguard fund is eroding, notwithstanding that it is well run and aims at the less trashy end of the high-yield spectrum. If you invested when the fund opened in 1978 and spent all the dividends, then you now have, in purchasing power, only a sixth of the capital you started with.

This is inevitable. Corporate borrowers do not give you cost-of-living raises. Some go bust. The others do not repay more than they borrowed.

Stockbrokers don't spend a lot of time discussing erosion. Exception: the fictional one played by Woody Allen in one of his movies. He described the job this way: "I help other people with their investments until there's nothing left."

My steady-income \$1 million portfolio has a Treasury backbone paying a guaranteed semiannual coupon that comes to \$1,000 a month. It gets a yield boost from junk, preferreds and emerging market debt. As antidote to the erosion from all those things it has a few equities.

I estimate the starting payout at \$3,400 a month, climbing to \$3,900 as the Treasury bond nears maturity 22 years from now. The \$500 won't fully offset inflation between when you're 66 and when you turn 88, but it will make a dent.

Buy \$240,000 (par amount) of the 5% T bond due in May 2037. That will cost you \$337,000. Put \$200,000 in the Vanguard junk fund and \$100,000 each in **VANGUARD'S EMERGING MARKETS GOVERNMENT BOND (VWOB, 76)** and **FTSE DEVELOPED MARKETS STOCK ETF (VEA, 38)**. Put \$100,000 in preferreds, dividing the pot between the iShares fund and **MARKET VECTORS PREFERRED SECURITIES EX-FINANCIALS (PFXF, 20)**. Put the \$163,000 balance in **VANGUARD TOTAL STOCK MARKET (VTI, 104)**. **F**

HOW DO YOU GET A NICE YIELD WITHOUT ERODING CAPITAL?

to keep risk at a tolerable level. Optimizing for income sends you off on a hunt for junk bonds and preferred stocks. Junk debt is very volatile on a total return basis, but its income stream is not so turbulent.

Look at what happened in the recession. The price of **iSHARES U.S. PREFERRED STOCK (PFF, 39)** crashed from \$50 to \$15, yet the ETF's annual payout held fairly steady in the neighborhood of \$2.80. The **VANGUARD HIGH-YIELD CORPORATE FUND (VWEAX, 5.77)** had a frightening total return, but its distribution dipped only 9% from 2007 to 2009.

I've applied some of Blanchett's thinking in coming up with a portfolio for a new retiree. It squeezes a lot of juice out of the lemons in fixed income but doesn't go all-out for yield. The payout starts at 4% of the amount invested. That leaves room for a little growth.

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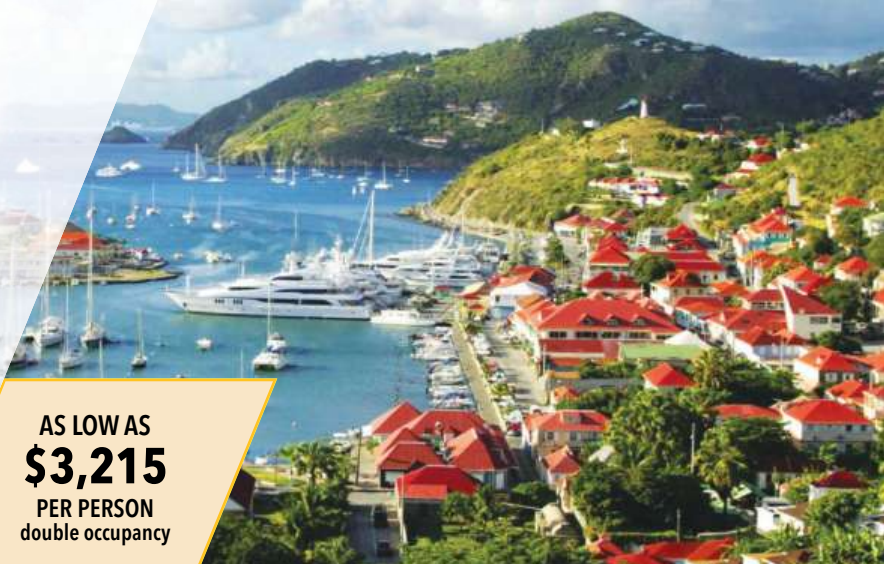


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Features

November 2, 2015



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A meal kit from e-commerce unicorn Blue Apron containing the ingredients for three meals: a Thai pumpkin curry, a spiced eggplant and tomato bake, and a fingerling potato and kale hash with eggs. The service costs around \$30 per person per week.

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JAMEL TOPPIN FOR FORBES

FOUNDED 2010
CEO PATRICK COLLISON

Stripe

VALUE: \$5 BILLION
AS OF JULY 2015

Since Patrick Collison founded Stripe with his brother John in 2010, it has become one of the hottest destinations for tech talent in San Francisco. Despite a modest sales and marketing team of just 20 people, Stripe has a payments infrastructure that is already helping hundreds of thousands of businesses process billions in transactions every year. Its customers include fast-growing companies like Lyft, Kickstarter and Twitter and established giants like Salesforce and Rackspace. Stripe has also woven its technology into some of the ubiquitous digital commerce services like Apple Pay and Alipay. "The market is so large," says Collison. "There are very few businesses that don't move money around online in some capacity or another. It's not the valuation that's so surprising but that it's possible to build businesses of such scale so quickly." —*M.H.*



THE UNICORN BOOM HAS JUST BEGUN

Bubble? Hardly. Yes, many \$1 billion startups are overvalued. But when viewed together and weighed against the first dot-com boom, they still represent a blockbuster investing moment.

BY MIGUEL HELFT

PHOTOGRAPHS BY CHRISTIAN PEACOCK

TOP ENTREPRENEURS

F

or the anxious throng worried about spiraling startup valuations—a group now big enough to pass for conventional wisdom in Silicon Valley—Zenefits could be the poster child for collective panic. The two-and-a-half-year-old company, which sells cloud software to help businesses manage h.r., payroll and benefits, has been bid up recently to \$4.5 billion, a nosebleeding 45 times this year’s forecasted revenue and well into the “unicorn” stratosphere. The company is worth more than Sears and Columbia Sportswear and their combined two centuries of operations. Its value has increased \$6.6 million for every workday it has been in business.

For companies like Zenefits, the very name unicorn—a venture-backed private company sporting a valuation above \$1 billion—carries irony. The term derives from historic rarity: the idea that an eBay or a Google or a Facebook is a kind of magical occurrence, one that single-handedly turns a portfolio into a blockbuster, a venture capitalist into a superstar. Now it’s a downright common benchmark and one that’s invoked with a sense of dread as their numbers grow. We count 140 unicorns globally, up from 75 at the end of last year. Most are U.S. firms, but it seems like a new one is minted every week or two in China or India.

Unicorns, critics say, represent the next risk bubble: so many largely unprofitable firms lacking in rigorous auditing or public disclosures. “We may be nearing the end of a cycle where growth is valued more than profitability,” veteran venture capitalist Bill Gurley of Benchmark tweeted in August. “It could be at an inflection point.” Skeptics point to the mediocre post-IPO performance of former unicorns Pure Storage and Box as evidence that the chickens have come home to roost. Reports of startups

FOUNDED 2010
CEO JOSH JAMES

Domo

VALUE: \$2 BILLION AS OF APRIL 2015

Josh James knows plenty about running a business in a bubble. He started his first unicorn, Omniture, in 1996. At the height of the dot-com frenzy he received offers for the company simply based on the number of engineers it employed. James' refusal to sell proved prescient. He took Omniture public in 2006 and sold it to Adobe for \$1.8 billion three years later. Investors in Domo, a Web-based business intelligence and analytics service, are more hard-nosed about scrutinizing its metrics but get the economics of software-as-a-service, James says. "People understand the model," he says. Since launching in 2012, Domo has been doubling every year, and it expects to pass \$100 million in revenue in 2016. Most Domo customers, which include GE, Nissan and MasterCard, not only stay but increase their spending by 170% in the second year. The key to weathering any downturn, James says, is a healthy balance sheet. Domo has raised more than \$450 million from investors. "If you don't have enough cash to get to break-even, you don't control your destiny," James says. "We have enough cash to get us to break-even." —M.H.



with unworkable business models surface with increasing frequency.

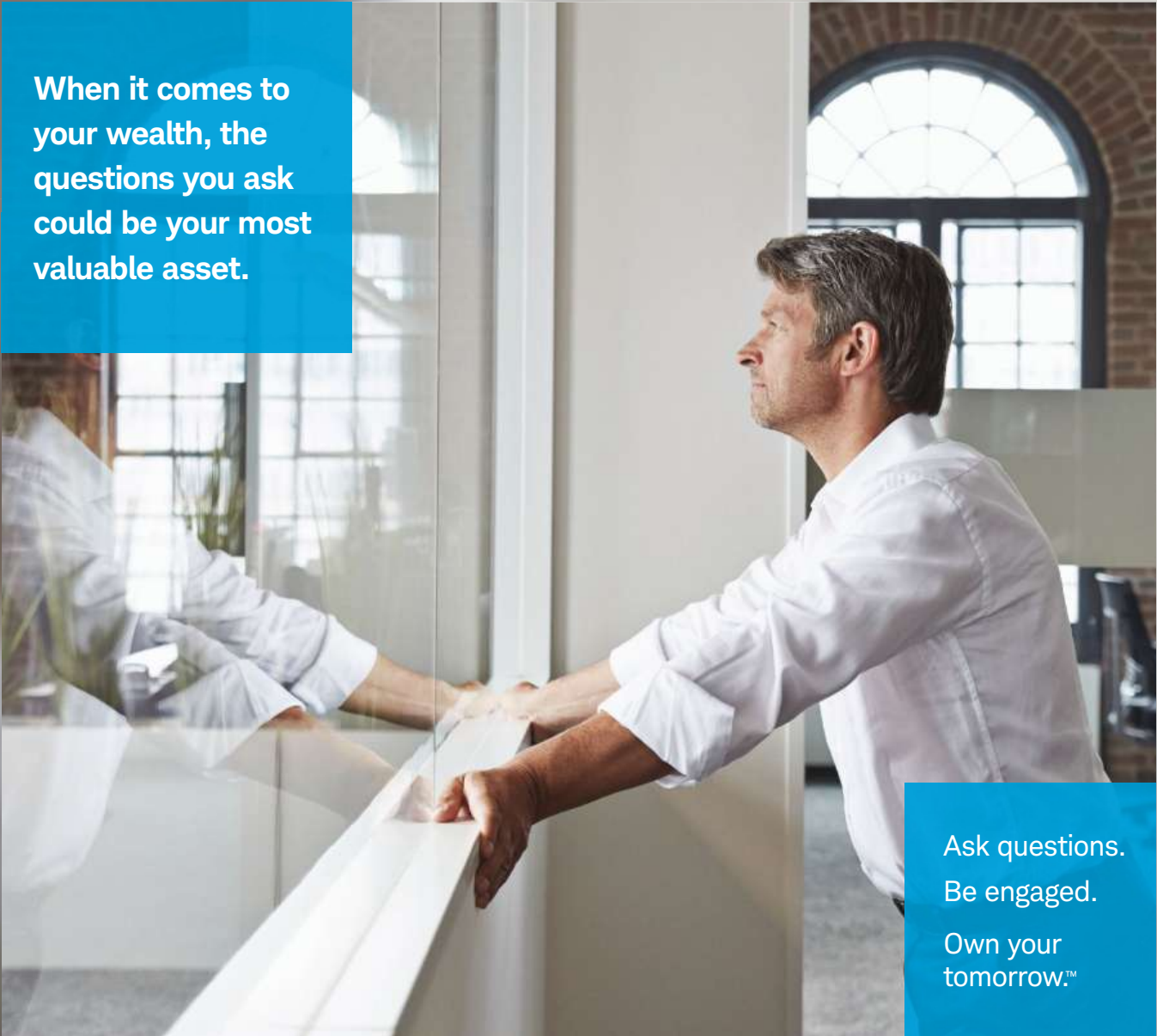
All fair points, when looking at individual companies this year. But a bubble implies a systemic problem and an existential danger, and when you view these high-growth startups as a long-term portfolio, that's simply not the case. (*See the entire class of 2015 unicorns, starting on p. 96.*) Taken as a whole, the 93 firms based in the U.S. (Americorns?) are worth \$322 billion, 14% less than Microsoft and a bit more than Intel and Cisco combined. Which would you rather own long term? Microsoft or a basket that includes Uber, Airbnb, Snapchat and Pinterest along with scores of others, a few of which will surely emerge as future PayPals, Twitters or Fitbits? Is that even a hard decision? And if not, what are we

worried about? Quite the contrary: If you're looking for growth, the unicorns minted in the last few years may well be one of the most attractive investments anywhere. (Obviously you can't buy the whole basket of unicorns, but we did find several retail mutual funds that give you broad exposure to them.) (*See p. 103.*)

Look more closely at Zenefits: It booked \$20 million in annually recurring revenue in its first full year of operations and is on track to reach \$100 million this year. That's growth the more established enterprise software titans could only have dreamed of when they were startups. It took Salesforce (market cap \$50 billion) and Workday (\$15 billion) more than five years each to pass \$100 million in revenue. Zenefits has raised eyebrows for spending

much of its revenue to fuel its growth (adding 1,600 employees to date), but it takes the company just six months to recoup the cost of acquiring a customer. Its CEO boasts that it makes more per user than most other "software as a service" companies. "I have no idea if we are in a bubble," says Zenefits CEO Parker Conrad. "I'm a terrible investor myself. But I know we have some of the most incredible unit economics."

Here's what's fueling that kind of performance and why this all isn't Pets.com redux: The number of people connected to the Internet has surged from 400 million in 1999 to 3 billion last year. The eight-year-old mobile revolution shows no sign of abating (just look at Apple's iPhone sales), and it is enabling forms of previously unthinkable, more efficient business models. Airbnb,



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which owns no accommodations, has put up more than 30 million guests so far this year. Uber, which owns no cars, drives 3 million people every day. The same digital transformation is hitting farming, health care, financial services and retail.

In light of these changes the amount of money pouring into private tech companies is downright modest: \$48 billion in 2014, compared with \$71 billion in 1999. When adjusted for inflation, dollars fueling tech startups last year were roughly a third of what they were at the peak of the dot-com bubble, and when adjusted by the number of people online, they were about one-tenth. *One-tenth*. What's more, rather than being distributed among a large number of early-stage startups—which by definition are the riski-

FOUNDED 2001

CEO BORGE HALD, PRESIDENT AMY PRESSMAN

Medallia

VALUE: \$1.25 BILLION AS OF JULY 2015

Medallia survived two popped bubbles (dot-com and credit crisis) over its 14-year “overnight success.” While there are plenty of companies battling it out in the customer relationship management (CRM) space, the Palo Alto company deals in “customer experience,” providing a platform of surveys, text analytics and social media tools for businesses to track what their customers are really thinking and saying. That enables clients like Hilton to understand how a customer felt about that new mattress or Delta to see when fliers aren’t enjoying their delays (and are angrily tweeting about it). In a world where all brands are focused on being “customer-centric,” more than 500 companies swear by Medallia, whose average annual contract runs in the seven figures. Says President Amy Pressman, who cofounded the company with her husband, Borge Hald: “A lot of companies are afraid that they’re going to be blindsided by something that’s there in plain view, but they’re so overwhelmed with data.” Sequoia Capital partner Doug Leone cold-called the company in 2011 and was in its offices 24 hours later discussing deal terms. “In 2015 every single company says they’re ‘customer-centric.’” Medallia has raised more than \$250 million to date, the majority of which comes from Sequoia. —Ryan Mac

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FOUNDED 2013

CEO PARKER CONRAD

Zenefits

VALUE: \$4.5 BILLION AS OF MAY 2015

Zenefits came up with a clever “freemium” business model to hijack the sleepy h.r. management software business. Give companies a free online service for easily managing their employees and worker benefits, and take a commission any time an employee signs up for something that plugs into it. Health insurance commissions are currently generating the vast majority of Zenefits’ revenue, but it gets a cut of payroll administration, commuter benefits, retirement plans, stock options and other ancillary services. The company is quickly reshaping the business of selling insurance and other h.r. services to small businesses, which employ roughly half of the U.S. workforce. Just as Expedia and Travelocity replaced travel agents, Zenefits is replacing thousands of small, fax-machine-powered insurance brokers with an automated service that saves its customers countless hours of administrative work. Well over 10,000 businesses with anywhere from 2 to 1,000 employees have signed up. It’s a big number but a sliver of the millions of small and midsize businesses in the United States. “What we do is much broader than insurance,” says Parker Conrad. “We are trying to be the system of record for employee information. It really becomes an operating system for the business.” —M.H.

est ones—most of the investment is now concentrated on a far smaller number of more established companies.

Because they’re betting on fewer but bigger companies, blue-chip VCs—including Zenefits backers Andreessen Horowitz, Khosla Ventures and Founders Fund—and institutional investors like Fidelity and TPG are willing to lean forward further than usual. “Zenefits is growing at a rate that people haven’t seen before against a massive market opportunity,” says Scott Kupor, managing partner at Andreessen Horowitz, who scoffs at the notion that institutional investors don’t know how to value startups. “When smart public market investors build a financial model incorporating that growth rate against their required net internal rate of return, the valuation makes sense.”

The Chicken Little crowd likes to point to the new generation of Web giants, the Pinterests and Snapchats, which are valued more by their users than by their revenue—the same issue

that got everyone in trouble during the dot-com bubble. The difference—and it’s a significant one—is that now there are well-understood and proven revenue models for social media platforms. Plenty cried bubble when Google purchased YouTube for \$1.65 billion in 2006, when Facebook got valued at \$15 billion in 2007 and again when Facebook paid \$1 billion for Instagram in 2012. Now YouTube is widely considered one of the best acquisitions of the Internet era, Facebook is worth \$250 billion and Instagram is expected to bring in \$600 million in revenue this year and already has one-third more users than Twitter, which despite its well-publicized challenges is still valued at about \$20 billion.

A similar dynamic is at work with software-as-a-service (SaaS) companies. Josh James, who sold his first enterprise software company, Omniture, to Adobe for \$1.8 billion in 2009, says his new business-intelligence startup, Domo, is growing far faster into its valuation, \$2 billion. “There’s a true under-

standing of SaaS as a business,” James says. For every dollar Domo invests, it gets a dollar back in the first year and \$1.70 back in the second year, he says. “That’s a pretty good return profile.”

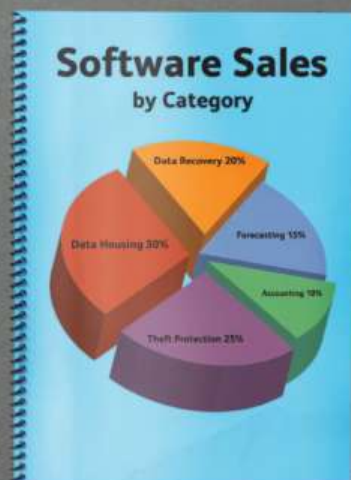
The presence of so many unicorns is not necessarily a signal of heightened risk. High-growth companies are merely substituting private market capital for the public markets. And why not? Cash is plentiful, and staying private longer avoids the headaches of an IPO and the quarterly shareholder dance. In 2000 venture-backed tech companies raised \$42 billion in 261 IPOs, compared with \$10 billion in 53 IPOs last year. What’s more, much of the value appreciation that used to follow an IPO is now occurring before companies go public. More than 99% of Microsoft’s value was created in the public markets; for Google the figure is more than 90% and for Facebook just north of 60%. Twitter? Its entire \$20 billion in market value accrued when it was private.

Some valuations do get propped up



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CEO ANNE WOJCICKI

23andMe

VALUE: \$1.15 BILLION AS OF OCTOBER 2015

It's been a tumultuous nine years for this Silicon Valley maker of over-the-counter genetic tests. It launched with visions of being everyone's portal to the secrets of their DNA. Then two years ago the Food & Drug Administration told 23andMe's Anne Wojcicki she could no longer sell the company's tests for any use relating to health. She was also, by the way, in the midst of a divorce from her husband, Google cofounder Sergey Brin. "Two thousand fifteen was better than 2014 and 2013," she says. "Without a doubt."

Rather than punt, Wojcicki figured out what she could do to make money off the 900,000 customers who had eagerly contributed their genetic data to 23andMe's research database. In January she announced a drug-discovery collaboration with Genentech worth an estimated \$60 million in milestone payments. In April Wojcicki hired Genentech's head of early-stage R&D to run its own in-house drug-invention operation. Even a single blockbuster drug could generate more revenue than selling 23andMe's \$99 test to every adult in the U.S.

Now Wojcicki says she hopes the FDA will allow 23andMe to market some health-related tests again. "There's a huge value in actually being the only one who's gone through the FDA process and can sell directly to consumers," she says. The coup de grâce: In October 23andMe raised \$115 million from investors, including Fidelity, ticking up its unicorn valuation a bit to \$1.15 billion.

To be sure, drug discovery is hard, but Wojcicki won't give up, and she could end up controlling a new gateway to the health care system. "This is a multiyear vision for how we bring genetics en masse to consumers," Wojcicki says. "This is just step one." —Matthew Herper

from a fear of missing out as investors all chase the next LinkedIn or Salesforce. No doubt they're throwing money at companies that will never reach those heights. Many will fail altogether. And the VC firms, hedge funds and mutual funds are often able to demand favorable terms—downside protections and antidilution measures—that would make them whole even if values decline. Those factors have certainly contributed to artificially pumping up some valuations. In some areas, notably China, which is suffering from an overall economic slowdown, a pullback could be significant.

But even a selective correction won't trigger an across-the-board crash. Not a chance. Too many unicorns have proven they have growing, sustainable businesses. Despite the lackluster IPOs of Box, New Relic and Pure Storage, these are not dot-com-crash disappointments—merely healthy companies that were a bit overvalued. They're not about to fail and could still soar past their IPO prices in a year or two (remember Facebook?). And even if investors get spooked and decide to stop lavishing cash on unicorns, most companies have the balance sheets and wherewithal to survive long winters. There might be some belt-tightening and some painful layoffs but not a sudden pop. "For many companies it's striking how long the runway is," says investor Peter Thiel. "It suggests people are more fearful than greedy."

That's largely why someone like Chris Wanstrath, the CEO of GitHub, a \$2 billion cloud-based management service for software development, doesn't lose sleep over the bubble talk. GitHub was profitable for four years before it raised two rounds totaling \$350 million. It's now plowing cash into growth but could return to profitability if it had to. "We took the funding because things are going well, and we want to accelerate our business," Wanstrath says. Big customers such as Target, John Deere and Ford are using GitHub to modernize their operations through software. "That's not going to change even if there's a downturn," Wanstrath adds. "We'll be okay, really." **F**



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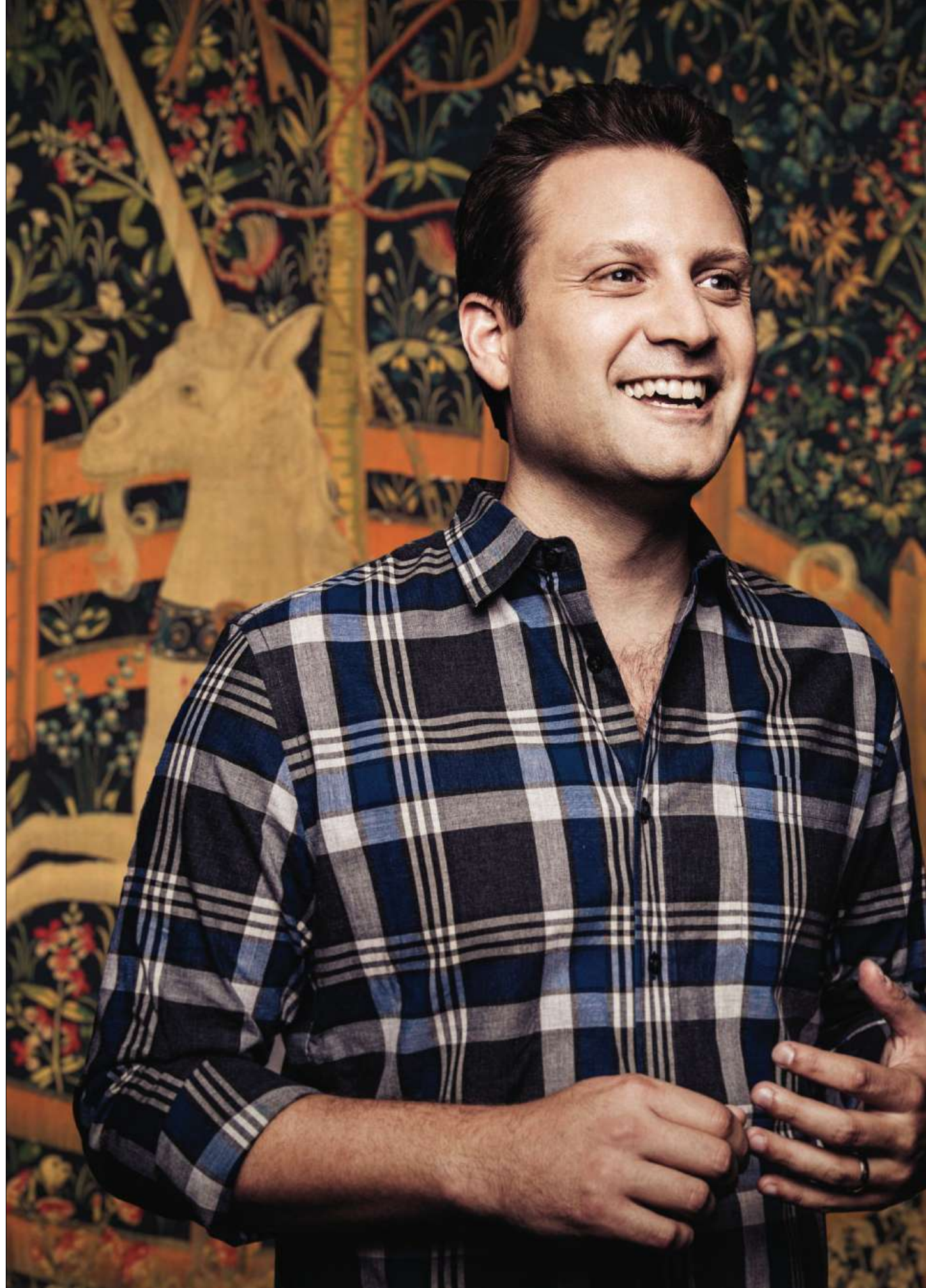
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FOOD FIGHT

Blue Apron is selling dinner kits at a rate of \$40 million a month and is valued at \$2 billion. HelloFresh is at almost \$3 billion, while Plated also has unicorn potential. Is this the future of food—or Webvan vs. Kozmo redux?

BY ALEX KONRAD

PHOTOGRAPH BY JAMEL TOPPIN

"The market was ripe," says Blue Apron CEO Matt Salzberg, who says he didn't know what competitors were working on.

It's June, and the summer zucchini are just starting to poke out from the vine. Their owner, a farmer named Patrick Johnston, explains to his eager guests from a startup called Blue Apron that the zucchini have already been sold to someone else and that the corn Blue Apron has contracted to buy is farther down the road. But Matt Wadiak, Blue Apron's master chef, barely hears him. He's focused on a little yellow flower he's spotted growing in the field. "Who's taking your zucchini blossoms?" he asks the bemused farmer.

The answer is no one. No one buys zucchini blossoms—except maybe these two guys from Blue Apron, who have a quick exchange. The flowers, they agree, would make a nice garnish for a fish dish. "If you could grow enough," Wadiak tells the farmer, "we'd pay a lot for these."

Johnston, who farms 800 acres in Oakley, Calif., is at a loss for words. He'd met Wadiak two years before at a sustainable agriculture conference down the coast, and he's already selling Blue Apron—just three years old—entire acres of sweet corn and beans. The two plaid-shirted thirtysomethings from the food-tech startup also discuss taking the purslane, an edible weed, growing alongside Johnston's beans. And should he convert more acreage to organic crops, they promise to buy whatever he grows. "I had no idea you did all that," says the farmer. Few did.

Founded in 2012 by Wadiak along with Matt Salzberg, a Harvard M.B.A. with venture capital experience, and Ilia Papas, an engineer and former consultant, Blue Apron ordered 3 million pounds of produce from 100 family-run farms this summer. The greens will go into the company's meal kits, boxes of precisely portioned ingredients and instructions needed to cook

exactly three dinners a week and sold on a subscription basis in serving sizes for couples or families of four. Blue Apron now delivers 5 million meals a month, up from 500,000 just 18 months ago. Last November, *FORBES* estimates, sales crossed an annualized rate of \$100 million; this year they'll more than triple. In 2016 the company should top half a billion.

Blue Apron is tapping a rich vein. Americans spend \$1 trillion each year on food, about \$400 billion of that on dinner, but they're not spending as much time as they used to cooking the food themselves. Less than 60% of dinners eaten at home are cooked there, according to a recent study by market research firm NPD Group, down from 71% in 1985.

Startups of all stripes have been eager to step in. Munchery, Sprig and Maple, for example, have bet tens of millions on cutting out the restaurants and cooking hot meals to order in centralized locations.

But surveys show that Americans still love to cook—they just feel they don't have the time. Blue Apron's approach, the meal kit, offers the convenience of delivery while keeping home cooks in the kitchen. The precisely portioned dinners minimize waste and allow consumers to try ingredients they might not otherwise buy, at a price they'd have trouble matching—roughly \$10 per meal per person.

And yet, Blue Apron, which has raised more than \$190 million and has been valued at \$2 billion, has not yet demonstrated profitability and faces well-funded competitors. It also faces the looming threat of a bursting tech bubble that could turn off the venture capital spigot.

It is one of no fewer than three fast-growing, venture-backed meal kit startups based in New York City. Plated, which was founded by Salzberg's former business school classmates, scored a *Shark Tank* deal and has annual revenue esti-

mated in the tens of millions. And HelloFresh, which was founded in Berlin but operates a regional headquarters in New York, just raised \$85 million at a valuation of \$2.9 billion and has global revenue of about \$40 million a month (HelloFresh declined comment).

Food? Delivery? Talk of a bubble? People could be forgiven for mistaking Blue Apron, Plated and HelloFresh for Kozmo and Webvan, two delivery companies that were among the notorious flameouts of the first dot-com era. Or they could be the future of food.

WALKING THROUGH Blue Apron's distribution center in New Jersey, Salzberg and Papas weave through packing boxes stacked ceiling high to the command center, where a large screen shows the shipping schedules for packages destined for cities as far away as Chicago. Software predicts incoming demand and costs, and workers on custom assembly lines pack boxes with meat and vegetables that could land on dinner tables that day. iPads attached to each line track its pace and check for missing items.

The operation is a far cry from the chaos of Blue Apron's early days, when the three founders packed boxes for their friends out of a small kitchen in Queens. In high school in middle-class New Jersey and in college at Harvard, Matt Salzberg told anyone who asked that he was going to be an entrepreneur. He would spend three years at Blackstone before joining a powerhouse 2010 class at Harvard Business School along with the founders of BaubleBar, Birchbox, LearnVest, RelayRides and more. Salzberg decided to join a venture capital firm after school to learn more about startups firsthand. In his interview at Bessemer Venture Partners he told partner Bob Goodman he would leave eventually to start a company. "Somehow I got the job anyway," Salzberg says.

UNICORNS THE CLASS OF 2015

We pulled data from PitchBook to identify the class of 2015 unicorns, a.k.a. private companies that have recently earned a \$1 billion-plus valuation.

DJI INNOVATIONS \$8.0 BIL (valuation)

CHINA
Unmanned drones

MEITUAN 7.0 BIL

CHINA
Online shopping

ZENEFITS 4.5 BIL

UNITED STATES
Online human resource software

TANIUM 3.71 BIL

UNITED STATES
Security and systems management software

SOCIAL FINANCE 3.6 BIL

UNITED STATES
Provider of student loan programs

GLOBAL FASHION GROUP 3.41 BIL

LUXEMBOURG
Online shopping

ELEME 3.0 BIL

CHINA
Online food ordering

CONTEXTLOGIC 3.0 BIL

UNITED STATES
Mobile e-commerce

HELLOFRESH 2.9 BIL

GERMANY
Subscription food service

LYFT 2.61 BIL

UNITED STATES
On-demand ride-sharing

KLARNA 2.5 BIL

SWEDEN
Billing and e-commerce platform

DOMO 2.04 BIL

UNITED STATES
Business intelligence software

GITHUB 2.0 BIL

UNITED STATES
Software collaboration



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One night at a happy hour for Boston-based Insight Squared, the creation of another classmate, Salzberg ran into Papas. A technical consultant in Boston, Papas had just given up on the idea of moving to New York and was planning to settle down with his girlfriend. But then he and Salzberg connected on an idea: a Kickstarter-like crowdfunding platform for research scientists that they would call Petridish. Over e-mails and beer Salzberg convinced Papas to move to New York and start the company. Salzberg walked away from Bessemer and raised \$800,000 in seed funding.

It didn't take them long to conclude that Petridish was not going to work. Still holding most of their capital, they began to fill a whiteboard with alternative ideas, including a "Warby Parker for strollers." There are multiple accounts of what happened next:

According to the Blue Apron guys, Papas came in one day after spending hours first trying to buy the ingredients for Argentinean-style steaks and then learning how to cook them on a friend's borrowed grill. "Wouldn't it be awesome if someone delivered you the ingredients in the right amounts?" he asked Salzberg, who did some research. He found a company in Sweden, Linas Matkasse, that was selling meal kits. In fact, it had reached \$60 million in revenue despite operating in a country with fewer than 10 million people. Salzberg and Papas decided this was the opportunity and started building a Web business they called Part & Parsley.

A few blocks away Josh Hix and Nick Taranto—Harvard Business School classmates with Salzberg—were also playing with startup ideas. And they, too, had spotted the Swedish meal kit company. They decided to launch their own site, DineIn Fresh, which would soon become Plated. Both Blue Apron and Plated

went operational in the summer of 2012. Though none of the principals will comment, there has been chatter on Silicon Alley about who had the idea first.

Intriguingly, it's possible that neither borrowed from the other—because they were both too busy borrowing from Berlin-based startup factory Rocket Internet. Long derided for rolling out startups that appear to clone the ideas of others, Rocket had spotted Sweden's meal kits first, launching its HelloFresh brand in European markets in late 2011. Both Blue Apron/Part & Parsley and Plated/DineIn Fresh debuted with websites that appear to have been inspired by HelloFresh's U.K. site. "Discover the joy of cooking," the top of the HelloFresh site said on June 4, according to a screenshot saved by Wayback Machine. "Discover a better way to cook," read DineIn Fresh on June 15, the first iteration of its site. "Discover incredible recipes," chimed in Blue Apron's site on Nov. 10. In two instances the DineIn Fresh site referred to itself as HelloFresh (both Blue Apron and Plated deny borrowing from HelloFresh).

ONE DAY LAST APRIL in Blue Apron's unmarked test kitchen in Brooklyn—they keep neighbors happy by plying them with free food—Matt Wadiak is holding court on how to split a raw chicken, showing exactly where to put the blade so that the uncooked meat separates neatly from the bone. He makes up the recipe as he goes, including hen-of-the-woods mushrooms, the type of fun, seasonal ingredient he tries to inject into every Blue Apron meal. "We don't cook weird stuff just because it's weird," he says. Instead, he says, he wants home cooks to learn new techniques and get comfortable with "different cultivars."

Wadiak is Blue Apron's secret weapon, its negotiator with farmers, its culinary guru and its wild card. A

UNICORNS THE CLASS OF 2015

AVANT \$2.0 BIL

UNITED STATES
Online consumer lending service

BLUE APRON 2.0 BIL

UNITED STATES
Subscription meal delivery service

ONE97 COMMUNICATIONS 2.0 BIL

INDIA
Telecommunications services

PROSPER MARKETPLACE 1.87 BIL

UNITED STATES
Peer-to-peer lending

ZOCDOC 1.8 BIL

UNITED STATES
Online medical appointment booking

OSCAR 1.75 BIL

UNITED STATES
Health insurance

THE HONEST COMPANY 1.69 BIL

UNITED STATES
Baby and lifestyle products

BLABLACAR 1.6 BIL

FRANCE
Mobile app for carpooling

GUAHAO 1.5 BIL

CHINA
Online medical services

APTUS 1.5 BIL

UNITED STATES
Quote-to-cash automation

24 BUZZFEED 1.5 BIL

UNITED STATES
Social news website

MULESOFT 1.5 BIL

UNITED STATES
Infrastructure cloud service



THE HONEST COMPANY: JESSICA ALBA'S ORGANIC BABY AND BEAUTY PRODUCTS ARE ON AN ABSURD GROWTH TEAR. REVENUE SHOULD HIT \$250 MILLION THIS YEAR.

STEFANIE KEENAN / GETTY IMAGES



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transfer student to the Culinary Institute of America who'd spent time cooking in Italy and working with a protégé of Alice Waters in Oakland, Wadiak had his hands full running a catering service and a wholesale truffles business when he met Salzberg and Papas in 2012. (He also still owns a Pilates studio, just for fun.)

When Salzberg asked him to join Part & Parsley full-time, Wadiak stipulated that the name had to go. This made no one happy. "We already had a website and a color scheme, and it seemed a huge waste of time," says Papas. But Wadiak insisted that the new name be based on the traditional garb worn by French chefs in training: blue aprons.

That first year Wadiak shopped farmers' markets and cooked every recipe in his own kitchen. (He ran afoul of his partners at one point by spending days looking for nettles.) Salzberg handled investors and fielded all marketing and customer service calls, while Papas built software to track their incoming supplies, advertising success and customer retention. He was also the late-night IT guy. All three packed boxes in a small kitchen in Long Island City, N.Y., sending them mostly to friends.

From the beginning Salzberg decided Blue Apron would handle its own distribution and staff its centers with employees, taking on early complications and costs to control quality. "It's a hot trend in startups to put employees on contractor forms," he says. "We took the position from day one that we didn't want to do that." The company did outsource delivery, building a matrix to determine the cheapest partner for each shipment.

When Salzberg landed a \$3 million Series A investment round led by Bessemer and First Round Capital, Blue Apron was ready to hire staff and try to ease some of the founders' burden. Within six months the company was serving nearly everywhere east of the Mississippi. The following year it

opened a San Francisco-area facility. A bigger facility in Jersey City and a rapidly growing headquarters in Manhattan's SoHo neighborhood came next. Eventually a third facility in Dallas gave Blue Apron coverage of the entire country, all served by 2,600 salaried employees.

As a subscription business Blue Apron knows a lot about its collective customers, including how many will cancel an order in any given week and what ingredients will be needed months down the road. That allows it to plan meals based on the expected availability and price of certain crops, as well as to win a better price with farmers, who'll gladly charge less to lock in a bulk order for pork chops or broccoli. And with just the three central hubs, Blue Apron avoids the major overhead costs of food waste, maintaining grocery stores and cooking food locally.

Blue Apron says it acquires many of its customers through word of mouth. But it also must fight to keep those customers. Many subscription companies lose customers as early as one month into their subscriptions. Blue Apron says that when customers leave it's generally because they find they don't have enough time to cook three meals a week or because they tire of having their meals dictated by someone else. A change in household size can also make a difference—as can the packaging. "We ended up canceling the service after three weeks mainly because the packaging seemed really wasteful," reads a 2014 user review on LearnVest. An early customer who asked not to be named tells of ending up with a freezer full of tilapia because he didn't like the fish and couldn't select other options.

Blue Apron is attempting to tackle those issues. More meal options are coming in the next few months, Salzberg says, and customers who make a fuss can cancel delivery at the last minute. And while the company did make its packaging more eco-friend-

UNICORNS THE CLASS OF 2015

INSIDESALES.COM \$1.4 BIL

UNITED STATES
Sales automation and predictive analytics

THUMBTRACK 1.3 BIL

UNITED STATES
Online marketplace for local services

MEDALLIA 1.25 BIL

UNITED STATES
Customer experience management software

DRAFTKINGS 1.2 BIL

UNITED STATES
Online fantasy sports

SOUNDCLOUD 1.2 BIL

GERMANY
Audio file-sharing platform

JAND 1.2 BIL

UNITED STATES
Eyewear

INFINIDAT 1.2 BIL

UNITED STATES
Data storage

OKTA 1.18 BIL

UNITED STATES
Identity management service

MARKLOGIC 1.15 BIL

UNITED STATES
Content management service

23ANDME 1.15 BIL

UNITED STATES
Personal genetics service

TWILIO 1.13 BIL

UNITED STATES
Voice communications service

PLANET LABS 1.13 BIL

UNITED STATES
Satellites

SPRINKLR 1.13 BIL

UNITED STATES
Social media management



STEFANIE KEENAN / GETTY IMAGES

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THE CLASS OF 2015

NEXTDOOR \$1.1 BIL

UNITED STATES

Private social networks for neighborhoods

DOCKER 1.07 BIL

UNITED STATES

Database platform

CHINA RAPID FINANCE 1.04 BIL

CHINA

Consumer loans

BEIJING JIUXIAN ECOMMERCE 1.03 BIL

CHINA

Online seller of spirits and wines

SHAZAM 1.02 BIL

UNITED KINGDOM

Content discovery service

IRONSOURCE 1.01 BIL

ISRAEL

App distribution

ZSCALER 1.0 BIL

UNITED STATES

Cloud security

KIK INTERACTIVE 1.0 BIL

CANADA

Messaging application

VOX MEDIA 1.0 BIL

UNITED STATES

Online publisher

TOP ENTREPRENEURS / SMALL BUSINESS PLAYBOOK

ly, it has also instituted a box-return program. And it's adding new services, too. In September it announced a program to sell wine pairings for its meals. "If half of our customers subscribed to wine, we'd be the largest wine e-commerce player in the U.S.," Salzberg says. The company also introduced an app over the summer that is intended to create a community of Blue Apron cooks sharing photos and videos and commentary.

Plated, meanwhile, has taken aggressive positions on everything from customization to sustainability. It funded a startup in Boston to make 100% plant-based liners for its packages. And instead of regimenting dinner options, it offered individual meals and a wider selection from the beginning. The company has had to move facilities 24 times in just three years because it couldn't properly forecast its own growth. In hindsight

co-CEO Taranto says the startup may have paid too much heed to customer demands for variety. "We in the early years tended to skew more towards being customer-centric than being focused on doing what was best for scalability," he says.

But Plated got a big boost when it appeared on an episode of *Shark Tank* (the popular TV show on which founders pitch their businesses to high-profile investors) that was taped in 2013 and aired in the spring of 2014. Billionaire Mark Cuban agreed on camera to take roughly a 6% share of the business for just \$500,000, and the broadcast crashed Plated's website. In the following month the company took in more revenue than it had in all of its previous months combined. But by the time the show aired, the deal with Cuban had fallen apart; eventually fellow Shark Kevin O'Leary stepped in. "My investment



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FDGRX	FIDELITY GROWTH CO.	NONE	37,200	2%	8.60	UBER, SNAPCHAT, CLOUDFLARE
FBGRX	FIDELITY BLUE CHIP GROWTH	NONE	19,300	2%	7.50	UBER, APPNEXUS, MEITUAN, BLUE APRON
PRNHX	T. ROWE PRICE NEW HORIZONS FUND ¹	NONE	15,500	2%	8.60	ATLASSIAN, EVENTBRITE, WEWORK
PVSAX	PUTNAM CAPITAL SPECTRUM	NONE	8,600	1%	-3.20	UBER
VWUSX	VANGUARD U.S. GROWTH	NONE	6,200	1%	9.50	UBER, PINTEREST, CLOUDERA, WEWORK
HGOIX	HARTFORD GROWTH OPPORTUNITIES	NONE	4,900	6%	12.90	DOCUSIGN, DRAFTKINGS, HONEST CO., PINTEREST, UBER
PRGTX	T. ROWE GLOBAL TECHNOLOGY FUND	NONE	2,106	1%	13.8	FLIPKART, DROPBOX, COUPA SOFTWARE
ITSAX	TRANSAMERICA GROWTH OPPORTUNITIES	5.5%	448	2%	-8.90	DROPBOX, PALANTIR
DGFYX	DAVIS GLOBAL FUND	NONE	385	4%	0.70	DIANPING, DIDI KUAIDI

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thesis,” says O’Leary, “is that if this company does not end up the leader, it will be acquired by a larger competitor for its subscribers.”

Plated, which once projected 2015 revenue of \$100 million, is much smaller than Blue Apron, and the gap is growing. “The goal is not to be the biggest but the best,” says Taranto. His cofounder, Hix, adds, “This isn’t about Plated vs. Blue Apron. It’s about Plated vs. Whole Foods and a huge food market.”

At Blue Apron the founders take a less charitable view. “If we didn’t exist, they’d have an impressive story,” says Papas. Adds Salzberg, “We’ve always been the market leader.”

Whether either company will continue to grow and ultimately turn a profit—“It could take a long time,” says Darren Seifer, an analyst with NPD—may depend on how much it costs to acquire customers and whether those customers believe they are getting a good value. So far Plated has been charging about \$12 per meal and Blue Apron about \$10. While many have speculated about how good a deal this is for consumers, the real question may be whether Blue Apron can make money at that price. It claims that its overwhelming buying power does in fact allow it to sell its boxes for more than the cost of its ingredients. But if you include the cost of marketing, the meal kit companies likely lose money for at least a few weeks on each user before breaking even. And outsiders aren’t so sure that Blue Apron, Plated and the rest can keep those costs from ballooning. Meal kit businesses could face price challenges from VC-backed meal delivery startups, says Battery Ventures executive-in-residence Jonathan Sills. And aggressive marketing through channels like Facebook could lose its luster as the sites compete for the same customers. “No one quite knows how this will all play out,” says Sills.

THE LAST TIME AROUND Kozmo and Webvan struggled to sustain their growth. Ultimately, they both burned through millions of dollars of investment capital around the turn of the millennium by chasing market share with murderous discounts for services that weren’t ultimately in demand. “The problem with the most promising companies in today’s market,” says Paul Madera, managing director of Meritech Capital, “is that they are priced for perfect execution on their business plans over the next five years—and then they go public at very favorable valuations. And that means there is no room for the setbacks and adjustments that 99% of companies face.”

The execs at Blue Apron and Plated, no surprise, dispute those concerns, arguing that they have better reach and better retention than some might guess. “If I could show you our books,” says Salzberg, “it’d be pretty obvious.” Actually, Blue Apron could show its books—it chose not to. In fairness, Fidelity saw them recently and chose to invest.

Salzberg says that if outside capital were to dry up, the company would be just fine. He says it has enough cash so that it need never raise money again—unless it wants to. He also says he chose Fidelity to lead the latest funding round because it takes a long-term approach.

Blue Apron says it is watching its financials closely and betting that it has built a brand that others will find impossible to match, from the one-on-one relationships Wadiak has cultivated with farmers to the emphasis on detail, right down to the flower garnishes.

“No one’s invented antimatter here,” says Goodman at Bessemer. “This is a box, and they put some food in it. So it’s all in the execution. And they’ve made the right choices since the beginning.” **F**

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Video content recommendations

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AUTO1 GROUP 1.0 BIL

GERMANY
Automobile marketplace

FUNDING CIRCLE 1.0 BIL

UNITED KINGDOM
Business lending marketplace

CHINA ZHONGYAN HOLDINGS 1.0 BIL

CHINA
Online shopping

ILLUMIO 1.0 BIL

UNITED STATES
Cloud security platform

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Restaurant search engine

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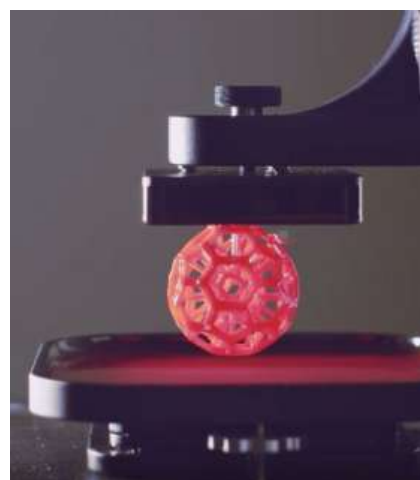
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Ford Motor CEO Mark Fields

FORD'S FRESH FACE

THE NEW CEO OF AMERICA'S MOST SUCCESSFUL CAR COMPANY MUST NAVIGATE A HYPERCOMPETITIVE FUTURE WITH THREATS FROM REINVIGORATED TRADITIONAL RIVALS—AND APPLE, GOOGLE AND UBER.

BY JOANN MULLER

An elegant blue sedan parked in a Ford Motor Co. design studio gradually awakens when it senses Chief Executive Mark Fields approaching. Like a child slowly waking to his mother's voice, the car's LED headlamps blink on, then a lamp illuminates the ground beneath the driver's door and soft lights slowly warm the interior, as if the car were stretching to begin a new day. Grinning at the thinly disguised prototype for a new Lincoln Continental coming in 2016, Fields says, "See how it greets you in a very human way?" And it's not because he's the boss. The car would greet anyone this warmly, as long as he or she had the key fob.

"That's the new face of Lincoln," he says, pointing to the polished chrome-mesh grille. He spends a few minutes showing off the car's clever styling tricks, like the discreetly hidden door handles and the translucent chrome taillights sweeping across the back end. But he can't wait for me to climb inside and sample the serene future of Lincoln, an iconic brand that has all but disappeared from the luxury landscape.

I slip into the rear passenger seat, where I am swathed in supple Scottish leather upholstery, my toes sinking into the shearling wool carpet and my hands gliding along the

silky fabric overhead. Fields pushes a button, and the rear seat begins reclining until I am fully prone, like a first-class passenger on a flight to Paris. Another touch of a button and the expansive sunroof automatically dims for privacy. Every detail is designed to make driving this modern-day land yacht more pleasurable.

Reviving Lincoln is an urgent mission for Fields, 54, who replaced Alan Mulally as chief executive in July 2014. With luxury cars accounting for one-third of industry profits, Ford's lack of a credible premium brand means it is missing out on billions of dollars in extra income. But he knows it will take time. "With this sedan concept we really wanted to connote the future," he says.

But three months later Fields is in Silicon Valley, painting a much different vision of the future, one in which traffic congestion and pollution threaten the very idea of car ownership. "In many cities driving your personal car from home to work simply doesn't work," he says, showing off a family of electric bikes that fold like a jackknife and plug into the back of a Ford vehicle. When traffic snarls, you park the car and ride the bike the rest of the way. Ford designed three versions of the e-bikes and is now testing them in London, where motorists who drive into the central city between 7 a.m. and 6 p.m. pay a "congestion charge" of \$18 a day.

The bikes are paired with a smartphone app that provides directions plus real-time information on weather and traffic—even potholes to avoid. When you need to make a turn, the left or right handle vibrates accordingly. If you've got a smartwatch, the app can measure

your heart rate while you pedal. If you're laboring too hard, the e-bike will do more of the work, so you can arrive pumped up, not overheated and sweaty.

Fields has to straddle both visions as he leads Ford through the most transformational era in automotive

history. His immediate task is protecting Ford's core business from newly revived competitors like General Motors and Fiat Chrysler Automobiles while fending off disruptive new players like Google, Tesla and Apple. But the merger of Silicon Valley smarts with Detroit steel is in-

evitable if the 112-year-old car company is going to successfully adapt to unprecedented societal changes. Rising standards of living around the world mean more people can afford cars, but the migration of people to megacities like Mumbai, Shanghai and São Paulo is creating global gridlock, and pollution is making people sick. Younger consumers, meanwhile, have different attitudes toward transportation, and owning a car just isn't a priority.

Yes, Ford will continue making cars, trucks and SUVs for the foreseeable future. But if it wants to be around for another 100 years, the company needs to start thinking of itself not just as a vehicle manufacturer but also as a provider of mobility services in a world where cars talk to one another and transportation is shared.

Balancing the two is dicey. Fields knows all too well what can happen when a company takes its eye off the ball by chasing shiny new strategies. In the early 2000s Ford stumbled badly after then CEO Jacques Nasser tried to transform the company from an Old Economy vehicle manufacturer into a broad-based, Web-savvy automotive-services company. He struck deals with Microsoft and Yahoo and tried to extend Ford's reach well beyond the showroom, buying repair shops, a driving school, the Hertz car-rental agency—even a junkyard.

"In our company history

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2025. MOSTLY SELF-DRIVING

Highly automated driving will be allowed on more roads, but drivers will still need to be able to take over in certain situations. Public transportation could well be driverless.

2030. IT'S HERE!

People will be able to summon driverless cars anytime to take them anywhere. Long-haul cargo delivery will be autonomous.

SOURCES: ERNST & YOUNG; BOSTON CONSULTING GROUP; CONTINENTAL AG.

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we've sometimes gotten enamored of new, emerging things," says Fields, who was in Japan running Ford's Mazda unit when the wheels started to come off Nasser's plan. "I'm not saying those strategies were wrong, but living in the organization, sometimes during that time if you were in the core business, maybe you weren't loved as much as the people on the sexy new things."

Fields' job is to make sure everyone at Ford understands how the new stuff reinforces the core: Car-sharing, for instance, means many cars will wear out faster and need to be replaced more often.

The potential upside is mind-boggling. Ford sells about 7.6% of the world's vehicles, a \$2.3 trillion market, which is expected to reach \$3.5 trillion by 2030, a nice trajectory for a mature business. But the larger transportation market—what people spend to get around via mass transit, taxis, Uber and Lyft, for example—is worth trillions and growing. "We get zero of that," says Fields. "The question is, how do we get more? Even if we get a small amount, it could be hugely beneficial to the company."

"This is not about moving from an old business to a new business," he says. "This is about moving to a bigger business."

IN MANY WAYS Fields has a much tougher challenge than his celebrated predecessor Alan Mulally, a former Boeing executive. Mulally arrived at Ford in 2006 after it had already begun working on a \$23.6 billion loan package from big U.S. banks that would prove crucial to its survival during the 2009 financial crisis. Mulally emerged a superstar, credited with saving Ford from bank-

ruptcy by refocusing the automaker on its core brand and uniting fractious management behind a simple set of goals. But Mulally was also the beneficiary of exquisite timing: Ford prospered in part because its competitors were on their knees after the Great Recession. GM and Chrysler filed for bankruptcy in 2009. The following year Toyota was crippled by damaging recalls, and in 2011 Honda and other Japanese automakers were devastated by the massive earthquake and tsunami.

Fields, on the other hand, inherit-



Ford's MoDe:Flex electric bike folds up for easy storage and charging in a car.

ed the company last year when competitors had already rebounded and Ford was in the midst of a risky overhaul of its flagship product, reimaging its iconic F-150 pickup in an aluminum body, a lightweight but more expensive solution to tougher fuel economy laws. The launch went slowly as Ford worked to get the quality right, creating opportunities for rivals like Chevrolet and Ram to grab market share. With F-150 production down, Ford's net income fell 56% to \$3.2 billion in 2014 as revenue slipped 2% to \$144 billion. Now that F-150 production is up to speed at two factories and SUVs like the Escape and Explorer are flying off dealer lots, Ford says 2015 is shaping up as a breakout year, projecting pretax profits between \$8.5 billion and \$9.5 billion. Ford stock, which has slumped lately along with the mar-

ket, is up 8.6% from a year ago versus 5.8% for the S&P 500 and 2% for a diversified basket of global auto stocks.

Still, Fields has plenty of issues on the front burner besides fixing Lincoln. Number one is the global economy, especially China, where Ford has invested heavily to catch up with rivals like GM and Volkswagen. Ford's joint ventures in China contributed \$1.3 billion in pretax profit last year, but industry growth has stalled this year, putting the company's \$5 billion bet on China at risk.

"Nobody's strategic plan for China is going to be remotely the same going out of this year," says Mark Wakefield, managing director at global consulting firm AlixPartners, pointing to the slowing Chinese economy coupled with excess factory capacity. South America is a problem as well; volatility in Venezuela and Brazil means the company is still losing money there.

Even in the U.S. there is reason to be cautious. The industry is riding a five-year recovery, fueled by pent-up demand, low gas prices and cheap lending rates. But a rise in gas prices or interest rates could chill demand quickly. Fields also has to negotiate a new labor contract this fall with a restless union.

But as he looks 10 to 15 years down the road, he worries about four trends in particular that will shape the company's longer-term decisions. One is urbanization. Today there are 28 so-called megacities with populations of 10 million or more worldwide. By 2030, experts say, there will be at least 41. At the same time the Brookings Institution reports that the global middle class will more than double in size—from 2 billion to 5 billion—by 2030, with most of the growth in Asia. For this emerging middle class owning a car is a sign that they have arrived. But as

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THE POWER TO PROSPER

Bill Ford, the company's executive chairman and family scion, has been warning for years, there simply isn't enough room on the planet for all those cars.

Air quality in parts of the world is another worry. "It's not just an issue of protecting the environment. It's an issue of basic health," says Fields. And, finally, Ford is worried about how to stay relevant to a new generation of consumers who love their smartphones more than their cars. They're more interested in access to transportation than car ownership.

IN 1961, WHEN FIELDS was born in Brooklyn, none of this was imaginable. America was deep in the thrall of its postwar romance with the automobile. Stylish, affordable muscle cars like the Ford Mustang and Chevrolet Camaro fueled the four-wheeled dreams of a generation, and car ownership soared. Fields fell in love, too. Well before he earned his driver's license (in 1977) or bought his first car (a Datsun B210 in his junior year of college) he collected Hot Wheels toy cars, which he kept in his bedroom in

where, at 39, he was in charge of Ford's moneylosing Mazda unit. Tooling around Japan in a red RX-7 sports car, the handsome, well-dressed Harvard M.B.A. was viewed by many there as a brash American who had no business running a Japanese carmaker. But he proved he could handle the tough assignment, fixing Mazda by unwinding its byzantine network of *keiretsu* suppliers, closing a factory and laying off 2,210 workers, and rebuilding its product line with sporty, fun-to-drive cars like the Mazda6 and Mazda3. Later he moved to Europe to become chairman of Ford's Premier Automotive Group, a collection of luxury brands that included Volvo, Jaguar, Land Rover and Aston Martin. Eventually he had responsibility for Ford of Europe as well.

By the time Fields was summoned back to Detroit to fix Ford's North American operations in 2005, the company was in deep trouble, and infighting among senior management had reached epic proportions. It didn't help in 2006 when a Detroit TV station revealed that, while Fields was asking employees to ac-

If you look back, it was Mulally's arrival in late 2006 that was the turning point for Fields' career. Mulally once joked that he never had anyone follow him around as much as Fields did, peppering him with questions. Fields was an attentive student, learning from Mulally how to challenge convention and trust underlings.

FIELDS STUDIED OTHER companies, too, such as Nokia and McDonald's, and resolved not to repeat their mistakes. "Ten years ago if McDonald's would have seen the societal trends of people eating healthier and helicopter parents really being cognizant of what they're putting in their kids' mouths ... they might be in a different position than they are today, chasing after the healthier Chipotles of the world," he says.

He concluded it's not enough to simply build a better car. "Look at the phone industry—Nokia," he says. "They focused on the core. Every year they came out with a battery that lasted a little longer or a new button that did something." But Nokia was crushed by Apple and

Google, which focused on the broader experience they wanted to provide and then designed the technology to deliver it. "We don't want that happening to us. We don't want to turn into the handset business."

To help map a long-term plan, Fields has brought in outsiders like former Merrill Lynch analyst John Casesa to head global strategy; Paul Ballew, a data science and analytics expert from Dun & Bradstreet, to mine consumer behavior and vehicle patterns; and Ken Washington, a former Lockheed Martin space scientist, to head research and advanced engineering.

Like other automakers, Ford has opened an office in Silicon Valley to embed itself in the startup culture, and earlier this year the company launched a series of 25 mobility ex-

"THIS IS NOT ABOUT MOVING FROM AN OLD BUSINESS TO A NEW BUSINESS. THIS IS ABOUT MOVING TO A BIGGER BUSINESS."

Paramus, N.J., where he grew up.

Fields was a good student and ran cross-country in high school. He was raised Jewish, which is relevant only because the company he now runs was founded by one of the most notorious anti-Semites in American history. Fields graduated in 1983 from Rutgers University with an economics degree and worked in sales and marketing at IBM before earning his M.B.A. at Harvard Business School in 1989. He and his wife, Jane, have two sons in college.

Fields joined Ford directly after business school as a marketing manager and climbed the ranks quickly, with stints in Argentina and then Japan,

cept painful sacrifices, he was using Ford's private jets to fly back and forth to his family home in Florida at a cost of about \$500,000 a year. That same year he nearly got into a fistfight with the company's former chief financial officer over a marketing budget and had to be restrained by Bill Ford, then CEO. In the end it was Fields who prevailed. The CFO later left the company.

"Mark grew and rose to every challenge, and he became a battle-tested executive through it all," Bill Ford said last year when Fields was named CEO. "Even some of his early doubters and detractors came around with great respect for the job he did."

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1. Title of publication: Forbes.
2. Publication No. 00156914.
3. Date of Filing: October 1, 2015.
4. Frequency of issue: Forbes is published semi-monthly, except monthly in January, February, April, July, August and October.
5. Number of issues published annually: 18.
6. Annual subscription price: \$59.95.
7. Complete Mailing Address of Known Office of Publication: 499 Washington Blvd., Jersey City, NJ 07310.
8. Complete Mailing Address of Headquarters or General Business Office of Publisher:
499 Washington Blvd., Jersey City, NJ 07310.
9. Full Names and Complete Mailing Addresses of Publisher, Editor and Managing Editor: Publisher:
Richard Karlgaard, 499 Washington Blvd., Jersey City, NJ 07310. Editor: Randall Lane, 499 Washington Blvd.,
Jersey City, NJ 07310. Managing Editor: Bruce Upbin, 499 Washington Blvd., Jersey City, NJ 07310.
10. Owner: This publication is owned by Forbes LLC, 499 Washington Blvd., Jersey City, NJ 07310, which is
owned by Forbes Media LLC, 499 Washington Blvd., Jersey City, NJ 07310, which is owned by Highlander
Management LLC and Forbes Global Holdings, Inc. Highlander Management LLC is owned by SBKTM
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owned by Integrated Whale Media Investments, Inc., No. 9 Queen's Road Central, Room 2401, 24/F Hong
Kong.
11. Known bondholders, mortgagees and other security holders owning or holding 1 percent or more of total
amount of bonds, mortgages or other securities: None.
12. Not applicable.
13. Publication Title: Forbes.
14. Issue date for circulation data below: August 17, 2015.
15. Extent and nature of circulation:

	Average No. Copies Each Issue During 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
A. Total Number of Copies (Net Press Run)	1,017,690	992,806
B. Paid Circulation (By Mail and Outside the Mail)		
(1) Mailed Outside-County Paid Subscriptions Stated on PS Form 3541 (Include paid distribution above nominal rate, advertiser's proof copies and exchange copies)	864,755	859,227
(2) Mailed In-County Paid Subscriptions Stated on PS Form 3541. (Include paid distribution above nominal rate, advertiser's proof copies and exchange copies)	0	0
(3) Paid Distribution Outside the Mails Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales and Other Paid Distribution Outside USPS*	37,039	27,067
(4) Paid Distribution by Other Classes of Mail through the USPS (e.g. First-Class Mail®)	0	0
C. Total Paid Distribution (Sum of 15B (1), (2), (3) and (4))	901,794	886,294
D. Free or Nominal Rate Distribution (By Mail and Outside the Mail)		
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E. Total Free or Nominal Rate Distribution (Sum of 15D (1), (2) (3) and (4))	52,691	59,099
F. Total Distribution (Sum of 15C and 15E)	954,485	945,393
G. Copies Not Distributed (See instructions to Publishers #4 (page #3))	63,205	47,413
H. Total (Sum of 15F and 15G)	1,017,690	992,806
I. Percent Paid (15C divided by 15F times 100)	94.48%	93.75%

16. Total circulation includes electronic copies.
Report circulation on PS Form 3526-X worksheet.

17. Publication of Statement of Ownership
☒ If the publication is a general publication, publication
of this statement is required. Will be printed in the
November 2, 2015 issue of this publication.

☐ Publication not required.

18. Signature and Title of Editor, Publisher, Business Manager or Owner
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periments around the world.

The six-month experiments
ranged from car-sharing in India to
delivering timely medical help in Af-
rica to capturing data from employ-
ees' cars near Detroit. So far Ford has
identified three projects to pursue:
the foldable e-bikes, a unique car-
sharing and parking service called
GoDrive and a program for Ford own-
ers to lend their vehicles to others. All
are now being tested in London.

By collecting data from today's cars
Ford is also looking for patterns it can
use to create services that will make
people's lives better. Says Don Butler,
executive director of Ford's connect-
ed vehicle and services: "I think we
can envision scenarios in which you
are prompted by your smartphone,
'Good morning. Based on the weath-
er and traffic conditions, I'm estimat-
ing you'll need to leave at 6:35 this
morning, as opposed to your normal
7 o'clock—and by the way, here's the
route we would recommend that you
take. Shall I order your favorite latte
on the way?' And, as you are arriving
at your place of business, prompting
you about an upcoming appointment,
'Shall I have those materials prepared
on your desktop when you arrive so
you can be ready for the meeting?'"
What we're really looking at is what
we call context-based solutions."

As a student of history, Fields
might learn his best lesson from the
company's founder, Henry Ford,
whose goal was not just to build
compelling cars but also to leave a
mark on society. In 1925 his compa-
ny placed an ad in the *Saturday Eve-
ning Post* that was titled "Opening
the Highways to All Mankind" and
showed a family overlooking a hilly
landscape dotted with cars and a
Ford factory in the background.

Says Fields, "Henry Ford believed
that a *good* business makes excellent
products and earns a healthy return.
But he proved that a *great* business
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The \$8 Million Pocket Watch

It weighs 2 pounds, contains 57 separate functions and took Vacheron Constantin eight years to create. Meet the world's most complicated timepiece.

BY ROBERTA NAAS

A handful of times over the past century a watch brand has been able to claim rights to building the most complicated timepiece in the world. In September Vacheron Constantin unveiled the Reference 57260 pocket watch, which took a team of three master watchmakers (as well as hand and dial specialists) eight years to build.

Estimated at \$8 million, the Reference 57260 (named for its 57 complications and Vacheron Constantin's 260th anniversary) was commissioned by a collector in the Americas who wishes to remain anonymous. He challenged Vacheron Constantin's Atelier Cabinotiers division to create the world's most complicated watch, with some specific functions, including a Hebraic perpetual calendar and an unusual split-seconds chronograph (to time multiple events at once). Such technically advanced feats have never been incorporated into a watch before.

Approximately 2 inches in diameter and crafted in an 18-karat white gold case that weighs about 2 pounds, the Vacheron watch nearly doubles the previous record for most complications in a timepiece: 33. Inside the gleaming hull reside more than 2,800 tiny mechanical components that make up the all-new movement (which took nearly two of the eight years spent to assemble). All told the timepiece claimed ten new patents.

And while the Reference 57260 is undeniably an incredible feat of precision, technology and craftsmanship, its creation prompts the question: "Why would anyone want to wait eight years for a watch to be built?"

The answer has roots dating back to the 1920s and 1930s, when two of the richest and most competitive men in the world, automotive mogul James Ward Packard and banker Henry Graves, commissioned top watch brands to create the most complicated watch in the world. Those timepieces (created by Vacheron Constantin and Patek Philippe, respectively) took years to build and resulted in what have become record-breaking works of art. (In November 2014 the Henry Graves Supercomplication pocket watch, which Patek Philippe made in 1932, sold at Sotheby's Geneva for a record \$24 million.)

"This challenge links back to those great collectors who are credited with pushing brands to create the unimaginable and

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WHAT MAKES IT TICK?

Inside the Vacheron Reference 57260.

SIX ALARM FUNCTIONS

A chiming alarm system with five hammers and gongs and three striking options (including grande and petite sonneries).

ASTRONOMICAL CHARTS

Nine complications track seasons, equinoxes and signs of the zodiac.

CELESTIAL SKY CHART

Customized to the owner's home city, it displays the night sky for that latitude.

DOUBLE RETROGRADE CHRONOGRAPH

The rattrapante (double-chrono) function required the team to develop an all-new chronograph mechanism. The two timing hands operate on separate scales opposite each other on the dial.

HEBRAIC PERPETUAL CALENDAR

Features Hebrew year indications, flyback Yom Kippur dates, moon phases and age of the moon.

SUNRISE/SUNSET INDICATORS

Set to the home city, they track the length of each day.

3-D TOURBILLON

The triaxial tourbillon makes a complete rotation every minute.

PERPETUAL GREGORIAN CALENDAR

Displays days, weeks and months (including leap years) with a retrograde hand.

produce some of the greatest watches in the world,” says Juan Carlos Torres, CEO of Vacheron Constantin. “And the fact that it is an American who commissioned this watch is fascinating.”

As was the pressure to build the world's most complicated timepiece. “Because the most complicated watch before this one had 33 complications, we set a goal of 36 complications,” says Dominique Bernaz, head of the Atelier Cabinotiers division. “As we worked together, I would regularly ask my team if

they thought we could do it, and they would smile and nod yes. We were halfway through the project before we knew just how many complications the watch would have, because the project kept evolving.

“Each complication is a special accomplishment,” adds Bernaz, “but putting them all together into one watch, that was the real challenge.”

So will this pocket watch spark a new rivalry in watchmaking among 21st-century collectors? Time will tell. ✱

FINAL THOUGHT



“The only reason for time is so that everything doesn't happen at once.”

—ALBERT EINSTEIN

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WILL BE DIRECTLY AFFECTED FROM COMMITMENTS MADE
ON STAGE AT THE 2015 **GLOBAL CITIZEN FESTIVAL.**

LIVES AFFECTED



POVERTY	World Bank, President Jim Yong Kim accepted the challenge to lead efforts to lift an additional 20M out of extreme poverty in the next 12 months.	20M
GIRLS & WOMEN	Sweden, Prime Minister Stefan Löfven , committed to improve sanitation for 60M people in the next 15 years.	60M
	Norway, Prime Minister Erna Solberg plans to increase Water & Sanitation funding by at least \$6M.	600,000
	H&M Conscious Foundation, Acting Global Manager, Maria Bystedt , commitment to give \$1.3M for Sanitation in India.	45,000
HEALTH	Luxembourg, Prime Minister Xavier Bettel , committed €500,000 to polio eradication efforts.	1.1M
	Colombia, President Juan Manuel Santos , committed to reduce maternal mortality rate in rural areas by 25% by 2018.	2.3M
EDUCATION	United Kingdom, Secretary of State for International Development Justine Greening , committed to get 6.5M additional girls into school in the next 5 years.	6.5M
	Norway, Prime Minister Erna Solberg , committed to double their contribution to Global Partnership for Education over the next 3 years.	
FOOD & NUTRITION	Malawi, Vice President Saulos Chilima , committed to achieve Food & Nutrition security, and to reduce the rates of childhood stunting to 10% and underweight to 5%, in Malawi by 2024.	

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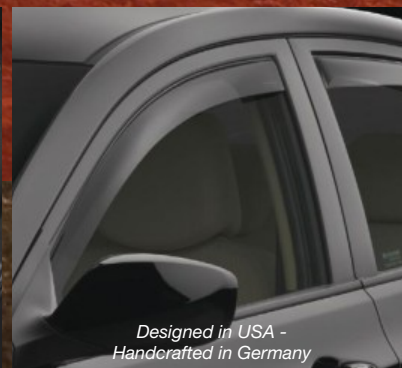
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*"If your heart is right,
everything will turn out right."*

—B.C. FORBES



ON MORALE

"Morale still seems reasonably high—and while the desertion rate has risen, it is still limited to those who can walk." —WOODY ALLEN

"You'll notice that the term 'morale' is never used except in reference to soldiers or people in analogous positions, such as employees of large corporations or prison inmates." —P.J. O'ROURKE

"We had joined up with enthusiasm and goodwill, but they did everything to knock that out of us." —ERICH MARIA REMARQUE

"Cast out the scoffer, and contention will leave; yes, strife and reproach will cease." —PROVERBS 22:10

"The best morale exists when you never hear the word mentioned. When you hear a lot of talk about it, it's usually lousy." —DWIGHT EISENHOWER

"The human heart is like Indian rubber: a little swells it, but a great deal will not burst it." —ANNE BRONTË

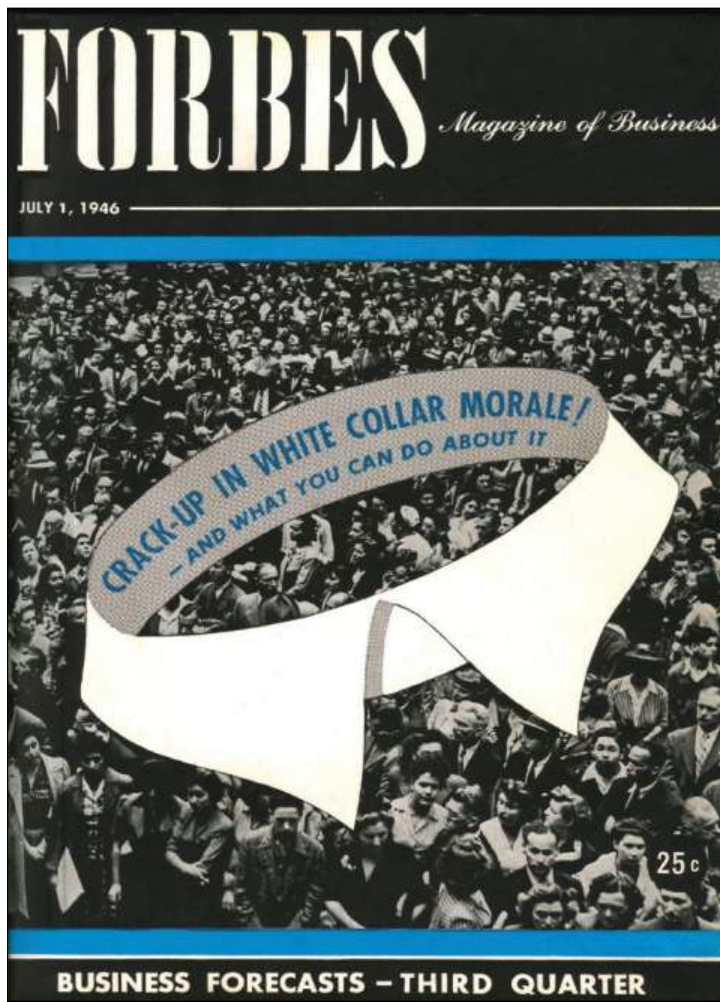
"When one side goes against the enemy with the gods' gift of a stronger morale their adversaries, as a rule, cannot withstand them." —XENOPHON

"You will do foolish things, but do them with enthusiasm." —COLETTE

"I have my foggy and my fine days within me; my prosperity or misfortune has little to do with the matter." —BLAISE PASCAL

"If you really want to kill morale, have layoffs every two months for the next two years." —TOM PETERS

"Nearly all soldiers ... have a sane attitude about war. They realize that it is disgusting, and that it may often be necessary." —GEORGE ORWELL



"Unions that are set up to collar white collarites have recently swelled their membership enormously. And estimates of the additional number of workers ripe for the picking include many millions more. Though some employers have spotted the proverbial handwriting on the wall and are giving more than lip service to the problem, too many others seem to be blithely unaware that white collar morale isn't all that it has been in the past. It's time for every employer to look at the sobering facts."

—FROM THE JULY 1, 1946 ISSUE OF FORBES

OTHER THOUGHTS FROM THAT ISSUE:

KINDLE 1.0 "At an average rental fee of three cents a day, per book, it's estimated that the American public spends more than \$100,000 a month to rent novels and popular non-fiction books."

TO THE GRINDSTONE "America needs an awakening, and needs it now. We cannot go forward by holding back. Everyone must pull together to get the wheels of industry going to full capacity. We must change our tactics and preach the old-fashioned gospel of work, work, work."

SOURCES: THE TIMES BOOK OF QUOTATIONS; GIVE WAR A CHANCE, BY P.J. O'ROURKE; AGNES GREY, BY ANNE BRONTË; THE PERSIAN EXPEDITION, BY XENOPHON; ALL QUIET ON THE WESTERN FRONT, BY ERICH MARIA REMARQUE.



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